

GOVERNMENT OF KARNATAKA

**UTILISATION OF DRUGS AND DIET
IN HOSPITALS IN KARNATAKA
A STUDY**

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**POPULATION CENTRE
MALLESWARAM, BANGALORE – 560 003.**

AUGUST 1989

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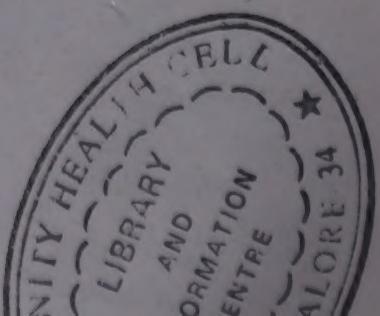
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P R E F A C E

The Population Centre, Bangalore, has been undertaking a number of studies in the fields of health, nutrition and family planning with a view to assist the Government of Karnataka in implementing the programmes effectively and efficiently. Some time ago, the Office of the Chief Minister of Karnataka wanted the problem of drugs and diet in the government hospitals in Karnataka to be studied and suitable suggestions made for improving the drugs and diet situation in the government hospitals. The responsibility of conducting the study was entrusted to the Population Centre. Accordingly, the Centre has conducted the study and made some suggestions which are presented in this report. We hope that the findings are valid and reliable and suggestions realistic.

A study of the present kind needs help and cooperation in conducting the field survey and tabulating the data, aside from formulating the problem and analysis of data. First and foremost, we are thankful to Dr. J.L. Javare Gowda, Formerly Director of Health and Family Welfare Services, who gave all the necessary help and suggestion for conducting the study. We are thankful to Dr. G.V. Nagaraj, Deputy Director (Planning), Directorate of Health and Family Welfare Services, who clarified many issues before undertaking the study. We are also thankful to Dr. Zaibunessa Begum, Formerly Joint Director, Government Medical Stores, who gave unstinted cooperation in giving information on the functioning of the Government Medical Stores. A number of District

Health and Family Welfare Officers, District Surgeons and Medical Officers in PHCs and PHUs extended full cooperation while data were being collected on the problem of drugs and diet. We extend our thanks to all of them.

In addition to the three authors, Mr. G.B. Venkatesha Murthy and Miss Manjula Devi, Research Assistants, Population Centre, were helpful in collecting and coding the data. We thank both of them. Efficient secretarial assistance was provided by Mrs. G. Rajeswari. We also thank her.

Bangalore
2-8-1989

P.H. Reddy
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UTILISATION OF DRUGS AND DIET IN HOSPITALS IN KARNATAKA

A STUDY

I

I. Introduction

Provision of essential drugs is one of the components of the services under primary health care which would be the key to the success of "Health for All by 2000 A.D.". The Directorate of Health and Family Welfare Services provides services under various programmes through its network of different types of health and medical institutions. There were 138 hospitals, 465 Primary Health Centres (PHCs), 1310 Primary Health Units (PHUs), numbering totally 1913 health institutions as on 31.3.1987 in Karnataka.

Out of the allotted budget for drugs, drugs worth 60 per cent were supplied by the Government Medical Stores (GMS) and remaining drugs worth 40 per cent by the District Health and Family Welfare Officers (DH & FWOS) to PHCs and taluk hospitals after getting indents from them. PHUs get package of drugs from the GMS without indenting. The package would be formulated by two PHC Medical Officers, two DH & FWOS and one Medical Officer of a PHU. In the case of teaching hospitals, district hospitals and specialised hospitals, drugs worth 40 per cent of the budget were purchased from the rate contract firms (RC firms) by the head of the institution and drugs worth remaining 60 per cent of the budget were supplied by the GMS.

On special occasions like drought and outbreak of epidemic diseases, extra drugs were supplied on request from the concerned MOH of PHC by the DH & FMO and GMS.

For national programmes like National Tuberculosis Control Programme, National Malaria Eradication Programme, National Leprosy Control Programme and Family Welfare Programme etc. drugs were supplied separately by the Government of India through programme officers concerned. All the vaccines for vaccination programmes were supplied from the Public Health Institutes.

II. Working of the Government Medical Stores, Bangalore

The Government Medical Stores, Bangalore has been a central stores for procurement, stocking and supply of drugs, chemicals, bedding, linen and hospital equipments and instruments to nearly 6000 institutions, including institutions run by local bodies and quasi-government departments like Karnataka Electricity Board, Karnataka Power Corporation etc., in the State.

This Government Medical Stores is headed by a Joint Director who is in charge of overall duties of the institution.

The main objectives of the Government Medical Stores are as follows:

1. Performing the functions relating to the fixation of rate contracts for drugs, chemicals, surgical items, bedding, linen, etc.
2. To arrange for conducting meetings of the Therapeutic Expert and High Power Committees to examine/scrutinise the tenders received and to recommend the items and firms for acceptance of rates depending upon the scrutiny results, past experience and the reputation of the firms.
3. After the rate contracts are approved by the government and issued by the Directorate, the Government Medical Stores places orders with approved firms for procurement of items as per the requirements with the approval of the Directorate of Health and Family Welfare Services. These items will be received with analytical reports about the standard quality of the drugs.
4. To arrange to despatch the drugs etc. to all the institutions as per the time schedule.

The Government Medical Stores has three stores for storing drugs and chemicals, instruments and surgical items etc., as shown below:

- 'A' Stores : Storing and distribution of items like tablets, injections and ointment tubes.
- 'B' Stores : Storing and distribution of tinctures, fluids, disinfectants and ointment jars.

'C' Stores : Storing and distribution of general surgical items, instruments, bandage, cotton, suture materials, drugs which require refrigeration etc.

The Government Medical Stores has one receipt section i.e., receiving of all items ordered for and forwarding them to the stores concerned duly certified after recording entry in the day book of receipts. In addition, it receives all the samples produced for rate contract work and it undertakes replacement of sub-standard and date expiry drugs. This section works under the control of the Chief Supervisor (Assistant Surgeon).

The Government Medical Stores has a packing yard headed by a Medical Officer, packing yard (Assistant Surgeon) assisted by clerical staff and packers. This section discharges the duties of packing and forwarding of these items to all the peripheral institutions.

The Government Medical Stores has a supply section headed by indent passing officer (graduate pharmacist) assisted by clerical staff to process all the indents of different types of institutions i.e. indenting institutions and billing institutions.

The administrative section of the GMS is headed by Secretary. This takes up all official work connected with the establishment matters and correspondence relating to administration. He is assisted by one Superintendent

on the administrative side and one Superintendent on the accounts side. The accounts section watches the budget allocation and passing of the bills and submission of statements of expenditure and receipts duly reconciled. It also takes up the audit and inspection of the GMS and also furnishing of replies to audit observations in the audit reports of the Accountant General and Department. The superintendent on the administrative side takes up the responsibility of scrutiny of all office papers of the administrative side and also the annual stock verification of dead stock articles and furniture and maintenance of attendance of the Group 'D' employees and office discipline in general.

III. Procurement of Drugs and Other Items

The Director of Health and Family Welfare Services arranges to float tenders for the items generally required and fixes up the rate contract every year. Before fixing up the rate contract, the following procedures are followed:

1. The Therapeutics Committee which is constituted by government on the recommendations of the Director of Health and Family Welfare Services consists of well experienced specialists in medical sciences and who have the knowledge of diseases generally prevailing in the State as members to suggest the general and special drugs to cure the diseases. For such of these items as well as the other items generally required, tenders are floated.

2. On opening the tenders, comparative statements are prepared and placed before the Expert Committee along with samples produced by the tenderers. The Committee on verifying the prices as well as the quality of the items, recommends the items, which are not only cheaper but also good in quality, to the High Power Committee for acceptance. This Expert Committee is also formed by the government consisting of medical personnel belonging to different faculties.

3. Finally, the High Power Committee consisting of high ranking personnel of government examine the recommendations of the Expert Committee and approve the items which are considered necessary and suitable.

IV. Procedures Relating to Supply

Drugs and other items are supplied to the major and district hospitals on the basis of their indents limiting to the budget allocations made to them. In respect of the peripheral institutions, i.e. PHUs, Sub-Centres, etc. drugs and other items are being supplied through package indents under the Minimum Needs Programme.

V. Mode of Despatch

1. For the short distances, consignment of drugs are despatched through the only one available truck attached to the Government Medical Stores.

2. For the transportation of consignments to the far off places, the services of private transport agencies are availed of by fixing the rate contract.

VI. Details of Budget Grants and Expenditure During the Last Four Years

<u>Year</u>	<u>Budget Allotted</u>	<u>Expenditure</u>	<u>Supplies Effected</u>
1984-85	9,39,91,486/-	9,39,66,456/-	7,26,90,196/-
1985-86	12,87,75,000/-	12,26,06,025/-	11,40,37,629/-
1986-87	13,82,38,690/-	13,55,35,990/-	13,73,61,803/-
1987-88	10,98,22,200/-	9,14,88,400/-	-

As could be seen from the above, there was a decrease in the budget allotment and its expenditure during 1987-88. This was only due to the late decision taken with regard to the supply of drugs to the institutions coming under the Zilla Parishads.

VII. Functions of Committees

1. During 1985-86, R.C.I/85-86 for drugs and chemicals etc. was finalised and issued on 31.7.85 and R.C.II/85-86 for surgical items and instruments, etc. was finalised and issued on 8.1.1986. During 1987-88, R.C.I/88 for drugs, chemicals etc. was finalised and issued on 11.1.1988. Generally, rate contracts are fixed for one year. In case the finalisation of rate contract is delayed, the currency of the previous rate contract will be extended by the orders of government till the new rate contract is finalised and issued.

2. The Therapeutics Committee met in December 1987 and classified the list of drugs under life saving and essential (critical) groups.

Statement showing the number of Indenting/Non-Indenting Institutions:

There are 755 indenting institutions and 5,037 non-indenting institutions (package indents).

A. Indenting Institutions

1. Teaching Institutions	-	16
2. Major Hospitals	-	25
3. Minor Hospitals	-	140
4. Combined Dispensaries	-	65
5. National Leprosy Control Centres	-	22
6. Regional Mobile Units	-	4
7. Temporary Hospitalisation Wards	-	20
8. Primary Health Centres	-	351
9. Subsidiary Health Centres	-	49
10. Mobile Tribal Health Units	-	10
11. Urban PHU	-	47
12. Medical Surgical Units (Reconstructive Surgery Units)	-	6
		755

B. Non-Indenting Institutions (Package Indents)

1. Primary Health Units	-1,204
2. Dental Clinics	- 52
3. Urban Leprosy Centre	- 63
4. Survey Education Treatment Centres	- 715
5. Subsidised Medical Practitioner Centres	- 30
6. Family Welfare Sub-Centre/UFC	-2,978
	5,037

The copies of lists of drugs that are available at GMS are sent to all institutions in the State.

The Medical Officer, Primary Health Centre, is not to be supplied with rate contract list, but it will be supplied to DH & FWO with an idea that it should percolate to MCH of PHC.

The indents from DH & FWOS, District Surgeons and Superintendents of hospitals are sent to GMS where they are processed by the Indent Passing Officer (IPO). The indent is adjusted to the budget of the hospital by cutting down the quantity in all available items.

At any given time, all the drugs are not available in the GMS. Only about 85 per cent are available. Other 15 per cent are not there due to short supply.

If the annual indent is not completely supplied and if there is balance of budget, an extra indent for drugs is entertained from a hospital.

For all hospitals of Bangalore district, it is compulsory that a person from the hospital with authorisation from respective officer should collect the drugs at GMS. For other districts, the drugs are sent by lorry transport like M.G. Brothers, CPG etc. Voluntary lifting of drugs is allowed even for other district hospitals.

For hospitals of other than Bangalore district, GMS sends delivery note (DN) first and a responsible officer of hospital has to check and certify when it arrives. He has to send back one copy of delivery note retaining the other. If anything is wrong in the supply, he has to lodge a complaint.

No stock (NS) certificate will be issued from GMS on request from the hospital (teaching hospital, district hospital and specialised hospital) for making alternative arrangements.

Regarding drugs nearing expiry date, a circular is issued by GMS to hospitals to inform 4 to 5 months in advance.

In 1987-88 the full budget for drugs and medicines was released in March 1988 for institutions which come under zilla parishad (PHC, PHU and taluk hospitals). Even though the budget was released to zilla parishad, they did not buy the drugs and returned it.

Reserve fund is a fund provided by the Directorate. It is meant for any emergency supply to keep adequate stock. Out of this, family planning drugs were also given earlier, but now it is not given because of financial problems. Earlier for GMS, an amount of about Rs.3 crores was available as reserve fund. Now it is not there. The budget for 1987-88 was 10.98 crores (less than that of 1986-87 because of no reserve fund).

VIII. Objectives of the Study

- The main objectives of the study are to know:

1. Whether patients accept the drugs available in government hospitals,
2. Whether preference is given by the doctors and community for injections or oral preparations,
3. Difference between the budget allotted and drugs supplied,
4. Adequacy of drugs supplied to the hospital,
5. Quality of drugs supplied,
6. Basis for the preparation of drug indent,
7. The difference between the drugs indented and supplied,
8. Supply of drugs nearing expiry date,
9. Supply of unindented drugs,
10. Utilisation of drugs,
11. Availability of life saving drugs in hospitals,
12. Knowledge of MOH of PHCs about the provision to purchase emergency drugs worth Rs. 50/-,
13. Drugs supply to Sub-Centres,
14. Schedule of diet supply to the patients in the hospitals,
15. Difference between budget allotted for diet and the expenditure on diet,
16. Problems regarding management of diet in hospitals,

17. Acceptance of diet by the patients in hospitals,
18. Utilisation of budget provision of Rs.6,000/- per annum towards diet by the PHC.
19. To know from the beneficiaries (patients) whether they received the drugs from the hospitals during treatment.

IX. Methodology

The number of different hospitals selected for the study is as follows:

One teaching hospital, one district hospital, one taluk hospital and three PHCs and one PHU from each revenue division of Karnataka and two specialised hospitals were selected for the study. Using random sampling techniques the districts and the hospitals were selected.

The hospitals selected were:

A. Teaching Hospitals

1. K.C. General Hospital	-	Bangalore
2. District Hospital	-	Mangalore
3. District Hospital	-	Belgaum
4. District Hospital	-	Gulbarga

B. District Hospitals

1. District Hospital	-	Kolar
2. District Hospital	-	Chickmagalur
3. District Hospital	-	Dharwad
4. District Hospital	-	Raichur

C. Taluk Hospitals

1. General Hospital	-	Chickballapur, Kolar District
2. General Hospital	-	Mudigere, Chickmagalur District
3. General Hospital	-	Munirabad, Raichur District
4. General Hospital	-	Savanur, Dharwad District

D. Primary Health Centres

1. Kamasamudra	-	Kolar District
2. Masti	-	Kolar District
3. Namagondalu	-	Kolar District
4. Gonibeedu	-	Chickmagalur District
5. Kalasapur	-	Chickmagalur District
6. Begur	-	Chickmagalur District
7. Matmari	-	Raichur District
8. Jalahalli	-	Raichur District
9. Jawalgere	-	Raichur District
10. Morab	-	Dharwad District
11. Kaginielli	-	Dharwad District
12. Katenahally	-	Dharwad District

E. Primary Health Units

1. Udangal Khanapur	-	Raichur District
2. Garag	-	Dharwad District

F. Specialised Hospitals

- 1. TB Hospital - Bangalore
- 2. Central Leprosorium - Bangalore

Some beneficiaries (154) were contacted and their opinion was recorded.

Different types of hospitals were selected for the study since each type of hospitals have their own problems.

Field work was conducted during the month of June 1988 by two Research Officers and two Research Assistants.

The schedules were scrutinised, tabulated and the findings are given below.

II

X. Findings

1. Staff Position

The staff position in different types of hospitals is shown in Table-1. It was found that 94.6 per cent of the doctors were in position in teaching hospitals, 95.1 per cent in district hospitals, 94.7 per cent in taluk hospitals and 90 per cent in Primary Health Centres.

2. Out-Patients, In-Patients and Bed Strength

The average number of out-patients for each teaching hospital for the year 1986-87 was 3,55,600. The average number of in-patients was 13,583 and average bed strength 642.

For district hospitals, the average number of out-patients was about 2,24,502 and average number of in-patients was 9,668 and the average bed strength about 219.

For taluk hospitals, the average number of out-patients was 51,054. The average number of in-patients was 2,720 and the average bed strength about 62.

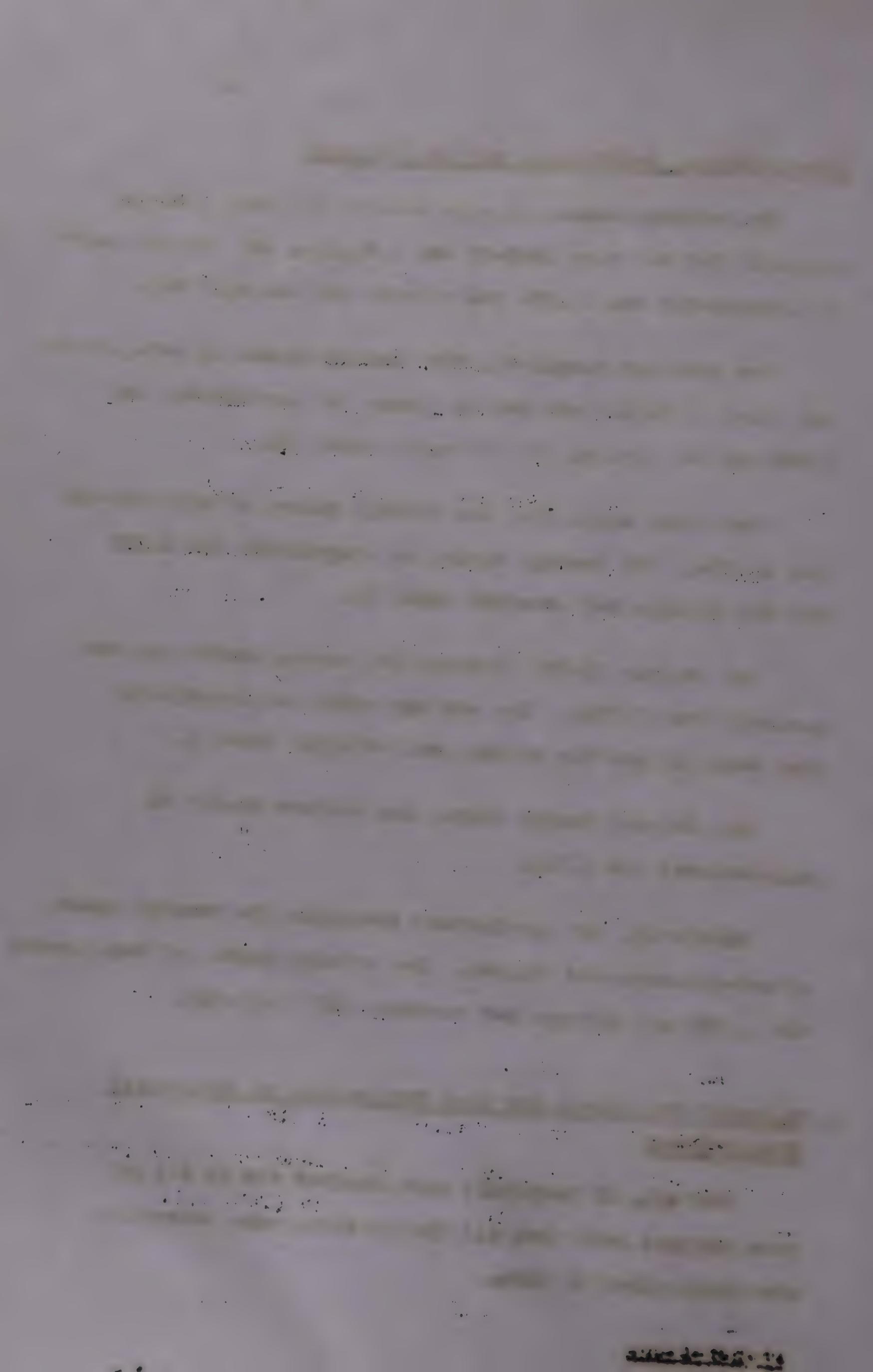
For Primary Health Centres the average number of out-patients was 13,792. The average number of in-patients was about 90 and the average bed strength about 7.

For Primary Health Units, the average number of out-patients was 9,715.

Similarly, for specialised hospitals the average number of out-patients was 24,944. The average number of in-patients was 1,358 and average bed strength 247 (Table-2).

3. Doctors' Preference for Oral Preparation or Parenteral Preparations

Overall, 28 hospitals were studied and in all of them doctors said that all the patients were accepting the drugs given by them.



Out of 28 heads of different hospitals interviewed, about 18 per cent said that they preferred to give more of injections as they satisfies the patients' psychology and about 39 per cent said that they preferred to give oral preparations rather than injections and about 43 per cent said that they had equal preference to both injections and oral preparations.

When asked for doctors' opinion about the patients' preference regarding injections and oral preparations, about 72 per cent said that their patients preferred injections, about 7 per cent said that their patients preferred oral preparations and about 21 per cent said that their patients preferred both equally.

4. Budget Allotment and Supply of Drugs

As already mentioned, out of budget allotted 60 per cent of drugs are supplied by GMS and 40 per cent by DH & FWO/RC firms. Table 3 shows the difference between the budget allotted and drugs supplied both by GMS and DH & FWO, for three years, that is, 1984-85, 1985-86 and 1986-87. It was found that out of 4 teaching hospitals studied, one hospital was supplied with less drugs and one hospital was supplied with more drugs than the budget allotted during 1984-85 and for three hospitals drugs were supplied more than the budget allotted during 1985-86 and also in 1986-87.

Similarly, out of 4 district hospitals studied, 2 were supplied with less drugs during 1984-85, 1985-86 and 1986-87. One taluk hospital was also supplied with less drugs during all the three years.

Out of 12 PHCs studied, one PHC was supplied with less drugs and 2 PHCs were supplied with excess drugs during 1984-85. Three PHCs were supplied with excess drugs during 1985-86 and 2 PHCs were supplied with less and 2 PHCs with excess during 1986-87.

Similarly one specialised hospital received less drugs during all the three years. So, overall during 1984-85 about 21 per cent of the hospitals were supplied with drugs worth less than the budget and about 11 per cent of the hospitals were supplied with excess drugs. In 1985-86, about 15 per cent of the hospitals were supplied drugs worth less than the budget and about 21 per cent were supplied with excess drugs. Similarly, in 1986-87, about 18 per cent were supplied with less and about another 18 per cent were supplied with excess drugs.

5. Opinion of Doctors About the Quantity of Drugs Supplied by GMS and NC Firms/DH & FNOs

Regarding the quantity of drugs supplied by GMS, 39.2 per cent said that the drugs were sufficient for their hospital and 61.8 per cent said that the drugs were not sufficient. Similarly, about the drugs supplied

by RC firms/DH & FWGs, 42.8 per cent said they were sufficient and 57.2 per cent said that they were not sufficient.

6. Opinion of Doctors About the Quality of Drugs Supplied by GMS and RC firms/DH & FWGs

To get the opinion of doctors about the quality of drugs, five grades were given i.e. very good, good, fair, poor and very poor. Table-4 shows the opinion of doctors about the quality of drugs supplied. One district surgeon opined that the quality of drugs supplied by the GMS and RC firms was poor. Similarly, 2 PHC doctors were of the opinion that the quality of drugs supplied by the GMS was poor. The others were of the opinion that the quality of drugs supplied by the GMS and RC firms/DH & FWGs was good or fair. It is worth noting that none of the doctors said that the quality of drugs supplied by the GMS and RC firms/DH & FWGs was very good.

So overall, 35.8 per cent of doctors said that the quality of drugs supplied by the GMS was good, 53.5 per cent said it was fair and 10.7 per cent said it was poor.

Similarly, 50 per cent of the doctors said that quality of drugs supplied by RC firms was good, 46.2 per cent said it was fair and 3.8 per cent said it was poor.

7. Preparing Indents of Drugs

Generally, indents of drugs are prepared by pharmacists, medical officers, RMOs and others. In 8 out of 12 PHCs,

indents were prepared by pharmacists and medical officers together, in 2 PHCs each by pharmacists and medical officers.

In two teaching hospitals and one district hospital, drug indents were prepared by RMOs; in one teaching hospital and in 3 district hospitals the indents were prepared by both pharmacists and RMOs; and in one teaching hospital, the indent was prepared by a Drug Committee consisting of RMO, pharmacist and others.

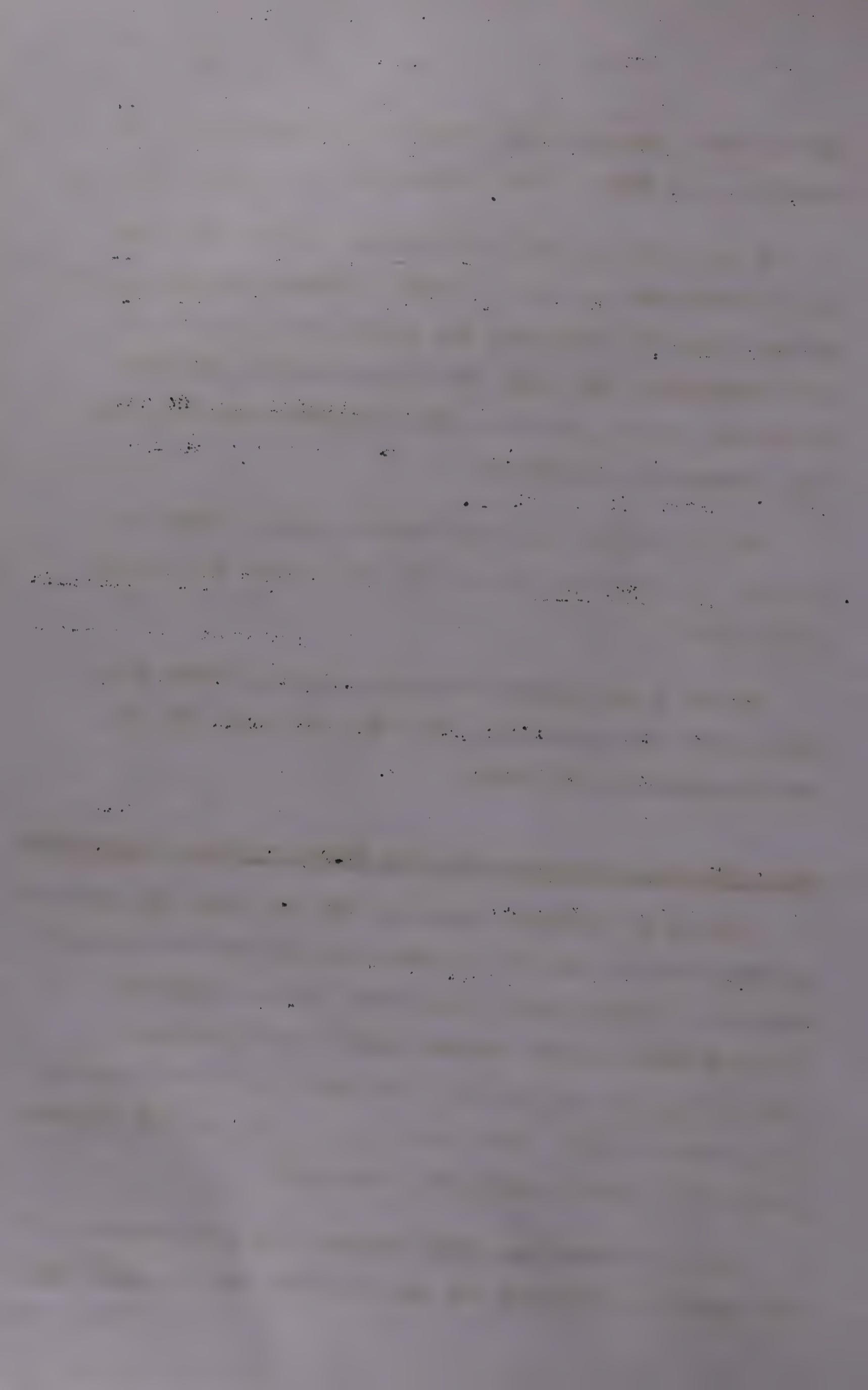
Out of 4 taluk hospitals studied, drug indents were prepared by pharmacist in one and pharmacists and medical officers in 3.

Out of 2 specialised hospitals studied, indent was prepared by both pharmacist and RMO in one and RMO and store's sisters in the other.

8. Basis for the Preparation of Drug Indent by Type of Hospitals

Out of 26 indenting hospitals 46.2 per cent had prepared indents based on disease pattern, 38.5 per cent had prepared based on previous year's experience, 3.8 per cent had prepared based on both disease pattern and population, another 3.8 per cent had prepared based on disease pattern and previous years' experience and 7.7 per cent had prepared based on the budget provision (Table-5).

Out of 4 taluk hospitals studied, two were sending two separate indents to GMS and DH & FWO and the other two



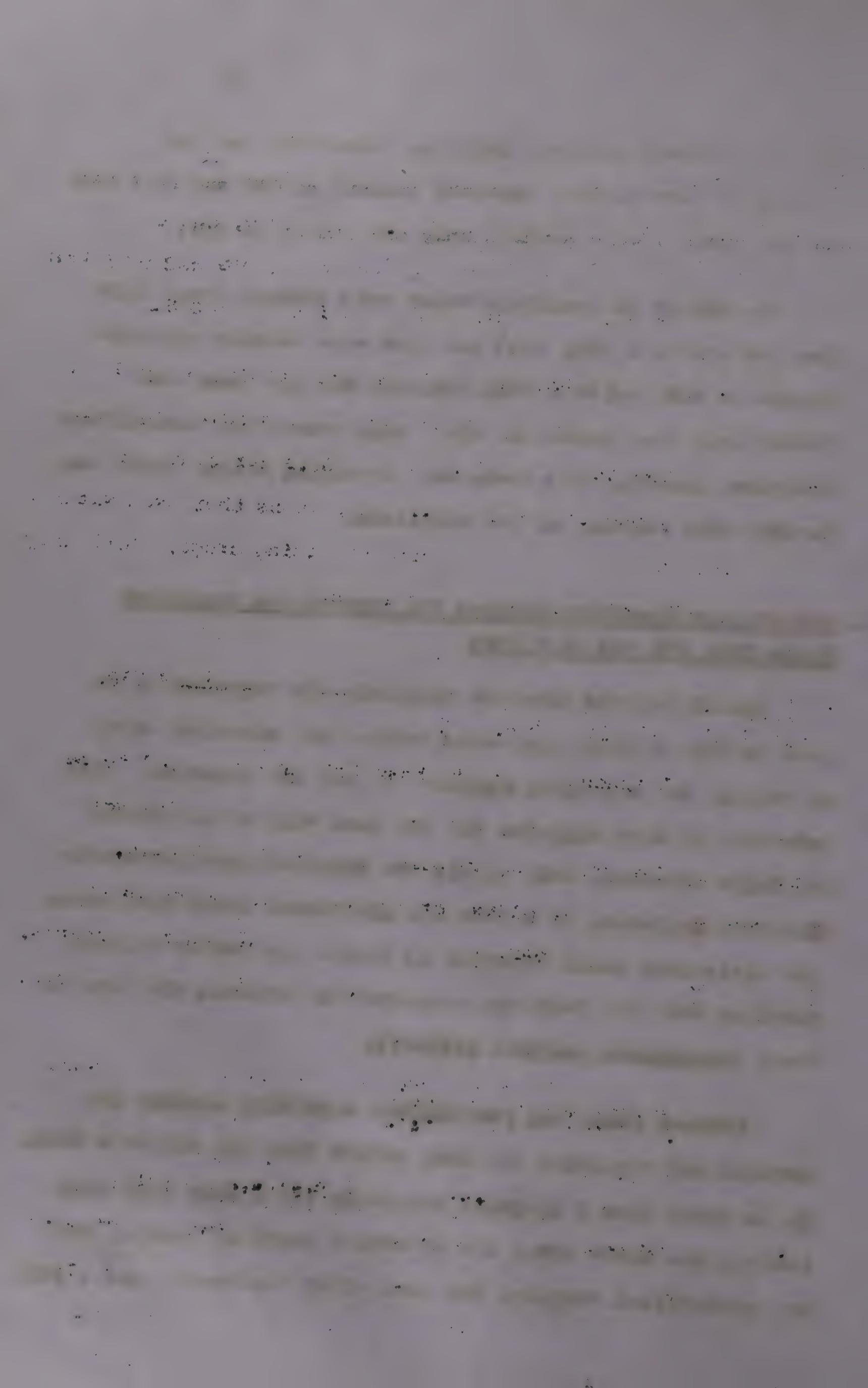
were not sending separate indents. Similarly, out of 12 PHCs, 5 were sending separate indents to GMS and DH & FWO and the other 7 were sending only one indent to GMS.

So, out of 16 hospitals which were getting drugs both from GMS and DH & FWO, 43.7 per cent were sending separate indents to GMS and DH & FWO, whereas 56.3 per cent were sending only one indent to GMS. This means that even without receiving indents, DH & FWOS were providing drugs, which they thought were needed, to the hospitals.

9. Particulars Regarding Sending the Indents and Receiving Drugs from GMS and DH & FWOS

Annual indents from the hospitals are supposed to be sent to GMS at least 4-6 weeks before the scheduled month of supply for arranging supplies as per the schedule. This schedule of drug supplies for the year will be circulated by Joint Director, GMS, to all the Hospital Superintendents, District Surgeons, DH & FWOS and Divisional Joint Directors. The Divisional Joint Director of Health and Family Welfare services and DH & FWOS are requested to intimate the same to their subordinate medical officers.

Table-6 shows the particulars regarding sending the indents and receiving the drug supply from GMS and DH & FWOS. It is found that 2 teaching hospitals and 2 PHCs have sent indents one month after the scheduled month of sending and one specialised hospital has sent after two months and 3 PHCs



have sent after 3 months. The supply of drugs from GMS was naturally late for them. But for one district hospital it was supplied one month late and for 2 district hospitals and 2 PHCs it was sent 2 months late, for 3 PHCs 3 months late even though they sent the indents in time.

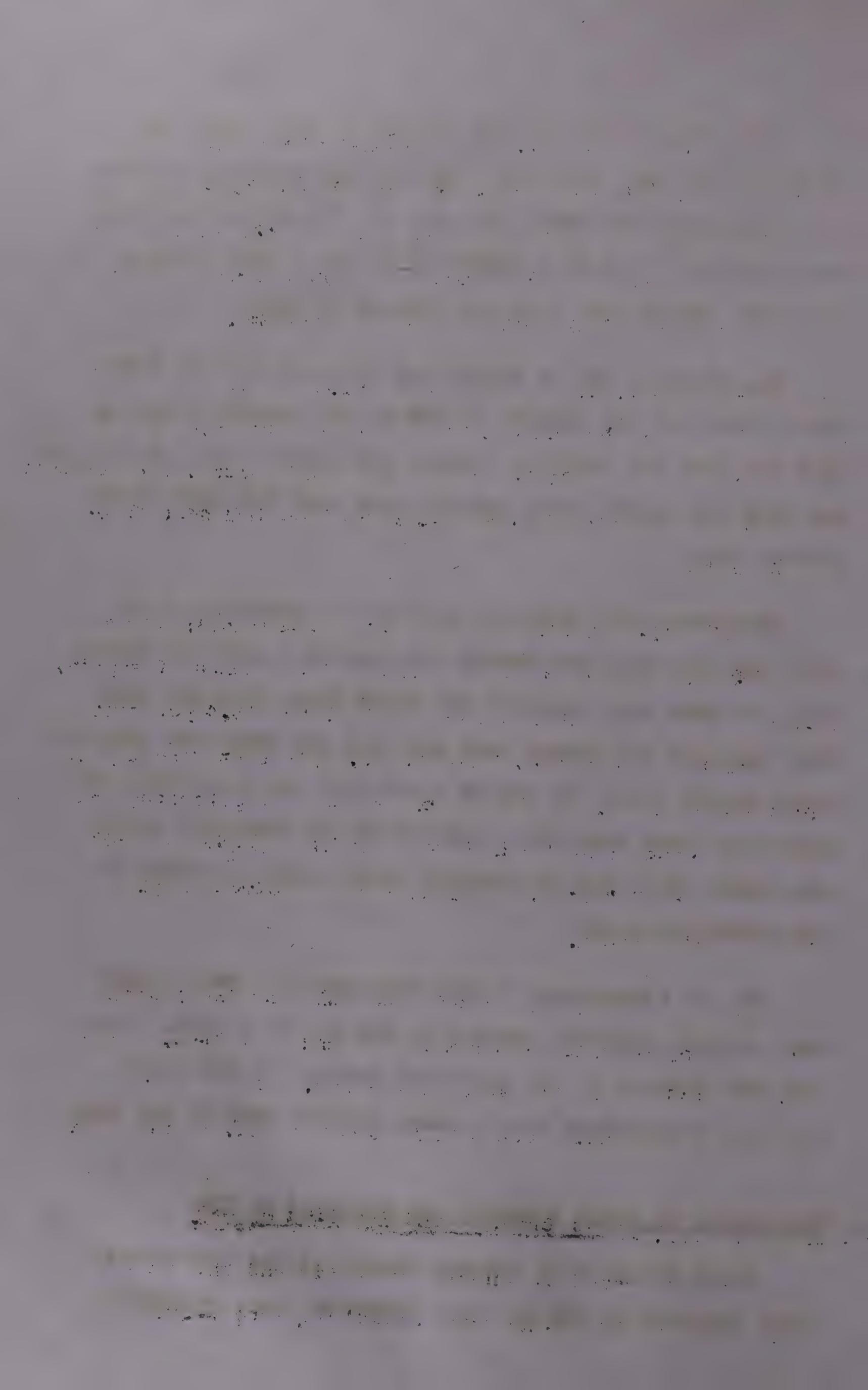
So, overall, it was found that 61.5 per cent of hospitals had sent the indents to GMS in the scheduled month, 15.4 per cent had sent the indents one month late, 3.8 per cent had sent two months late, and 11.5 per cent had sent three months late.

Similarly, for 30.8 per cent of the hospitals drugs from GMS were supplied during the scheduled month of supply, 19.2 per cent were supplied one month late, 15.4 per cent were supplied two months late and 11.5 per cent were supplied three months late. It may be noted that the percentage of hospitals which sent their indents in the scheduled month was higher than that of hospital which received drugs in the scheduled month.

Out of 7 hospitals (taluk hospitals and PHCs) which were sending separate indents to GMS and DH & FWOS, 5 had sent the indents in the scheduled month. As mentioned earlier, 9 hospitals were sending indents only to the GMS.

10. Difference in Drugs Indented and Supplied by GMS

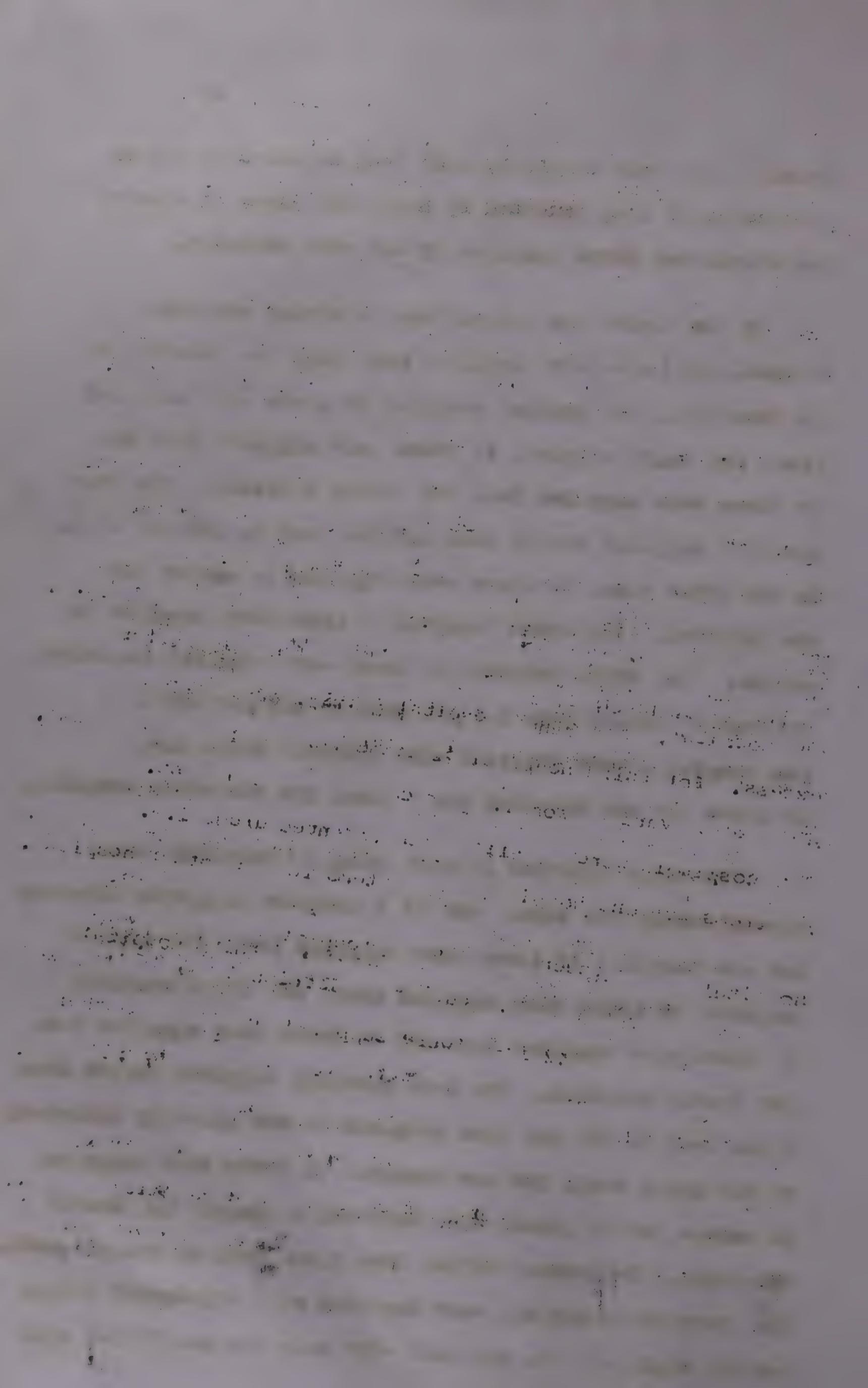
Drugs indented by various hospitals and the actual drugs supplied by GMS to these hospitals were studied in



detail. For each hospital, each drug supplied by GMS as percentage of drug indented by hospitals (less or excess) and unindented drugs supplied by GMS were computed.

It was found that out of four teaching hospitals studied, 18 items were supplied less than the indented for one hospital, for another hospital 25 items were supplied less, for third hospital 15 items were supplied less and 29 items were supplied less for fourth hospital. The less quantity supplied varied from 0.6 per cent to 100 per cent. On the other hand, 12 items were supplied in excess for one hospital. For other hospital 6 items were supplied in excess, For third hospital 22 items were supplied in excess. The excess varied from 1.3 per cent to 900 per cent. Two hospitals were supplied with unindented drugs i.e. 10 items for one hospital and 7 items for the other hospital.

The drugs indented in each group of hospitals were approximately the same. Out of 4 district hospitals studied, for one hospital 12 items were supplied less, for another hospital 28 items were supplied less, for third hospital 36 items were supplied less and 25 items were supplied less for fourth hospital. The less quantity supplied varied from 2 per cent to 100 per cent compared to the quantity indented. On the other hand, for one hospital 11 items were supplied in excess and 31 items were supplied in excess for fourth hospital. The excess varied from 2 per cent to 900 per cent. The district hospitals were supplied with unindented drugs; out of which one was supplied with only one unindented drug



and the other was supplied with 15 unindented drugs. Out of 4 taluk hospitals studied, 2 had not indented for drugs for the year 1986-87. This may be due to the transfer of chief medical officers and the posts lying vacant for quite some time. Out of the other two taluk hospitals, which had indented for drugs, one was supplied with 29 items less and the other with 30 items less. The short supply of drugs varied from about 3 per cent to 100 per cent. On the other hand, for one hospital 15 items were supplied in excess and for the other hospital 9 items. This varied from 6 per cent to 600 per cent. Seventeen items of unindented drugs were supplied to one hospital and one item to the other.

Out of two specialised hospitals, it was found that 5 items were supplied less to one hospital and 28 items to the other. It varied from 9 per cent to 100 per cent. On the other hand, 9 items were supplied in excess to one hospital and one item to the other. The excess varied from 6 per cent to 420 per cent of the actually indented. Only one unindented item was supplied to one of the hospitals.

Coming to the Primary Health Centres, it was found that in all the 12 PHCs studied some items were supplied in less quantity than the indented. The number of items for which less quantity supplied to these 12 PHCs varied from 4 to 79. The range of less quantity varied from 10 per cent to 100 per cent. On the other hand, some items

were supplied in excess quantity than indented. The number of items for which excess quantity supplied to these 12 PHCs varied from 1 to 12. The range of excess quantity varied from 7.1 per cent to 500 per cent. Ten PHCs were supplied with unindented drugs. The number of unindented drug items supplied to these 10 PHCs varied from 1 to 11.

11. Difference in Drugs Indented and Supplied by DH & FWOS

As mentioned earlier, 40 per cent of the drugs to taluk hospitals and PHCs were supplied by DH & FWOS. Two out of 4 taluk hospitals and 2 out of 12 PHCs studied had sent separate indents to DH & FWOS. One taluk hospital received less quantity in 20 items and the other in 13 items. The percentage of less quantity received varied from 25 per cent to 100 per cent and both the hospitals received excess quantity in items and it varied from 35 per cent to 83 per cent. Further, one hospital received 2 unindented drugs and the other 16 drugs.

Out of 2 PHCs which sent separate indents, both received some items less (6 and 13 items respectively) ranging from 5 per cent to 100 per cent. Only one PHC received excess of items of drugs ranging from 60 per cent to 225 per cent. Both PHCs received some unindented drugs (16 items and 5 items respectively).

12. Drugs Nearing Expiry Date

During 1986-87, only one teaching hospitals and one PHC had received drugs nearing expiry date from GMS. They were Lignocaine 5 % vials, Neosporin Powder and Poly Vitamin Drops. The date of expiry for these drugs was about 4 to 6 months from the date of supply.

13. Particulars of Unindented Drugs Supplied by GMS During 1986-87

It is a common complaint in most of the hospitals that GMS supplies unindented drugs.

Table 7 shows particulars of unindented drugs supplied by GMS during 1986-87. It is found that 17 (65.4 %) out of 26 indenting hospitals studied were supplied with some unindented drugs worth varying from 0.66 per cent to 20.1 per cent of the total cost of drugs supplied.

Similarly, four hospitals which had sent separate indents to DH & FWOs received some unindented drugs varying from 0.1 per cent to 84.6 per cent of the total cost of drugs.

14. Morbidity and Drug Utilisation

The morbidity pattern and drug utilisation were studied by classifying morbidity and drugs into groups.

The morbidity pattern by type of hospitals is shown in Table-8. In teaching hospitals diseases of gastro-intestinal system predominated with 21.13 per cent followed

by respiratory diseases (12.80 %). In district hospitals, respiratory diseases predominated with 13.71 per cent followed by diseases of gastrointestinal system (5.69 %). In taluk hospitals, respiratory diseases accounted for 28.50 per cent and diseases of gastrointestinal system for 26.48 per cent. In PHCs, diseases of gastrointestinal system accounted for 13.68 per cent followed by fevers other than malaria for 10.20 per cent and respiratory diseases for 8.87 per cent.

The differences in the patterns of diseases may not reflect differences in the incidence of diseases; rather, people go to different hospitals seeking treatment for specific diseases.

In PHUs diseases of gastrointestinal system accounted for 11.6 per cent followed by fevers other than malaria for 7.44 per cent, respiratory diseases for 6.95 per cent and worms for 6.46 per cent.

Utilisation of drugs during 1986-87 by type of hospitals is shown in Table-9. The number of tablets, capsules, bottles, vials and ampules were added together in the respective drug groups with a view to understand the drug utilisation pattern. Tablets, capsules, bottles, ampules and vials utilised from each group of drugs were added and analysed for each type of hospital separately. Eighteen groups have been identified. However, these 18 groups of drugs do not include drugs necessary for treating diseases like TB, leprosy, malaria and other vaccines.

In teaching hospitals the Vitamins and Minerals group of drugs were used highest (26.00%) followed by Analgesic, antipyretic and anti-inflammatory group of drugs (22.12 %), Antibiotic and Sulfa (21.52 %) and Anti-histamine and Cortisone (7.62 %).

In district hospitals, Analgesic, antipyretic and anti-inflammatory drugs were used highest (27.51 %) followed by Anti-histamines and Cortisones (17.86 %), Vitamins and Minerals (16.32 %) and Antibiotics and sulfa (12.32 %).

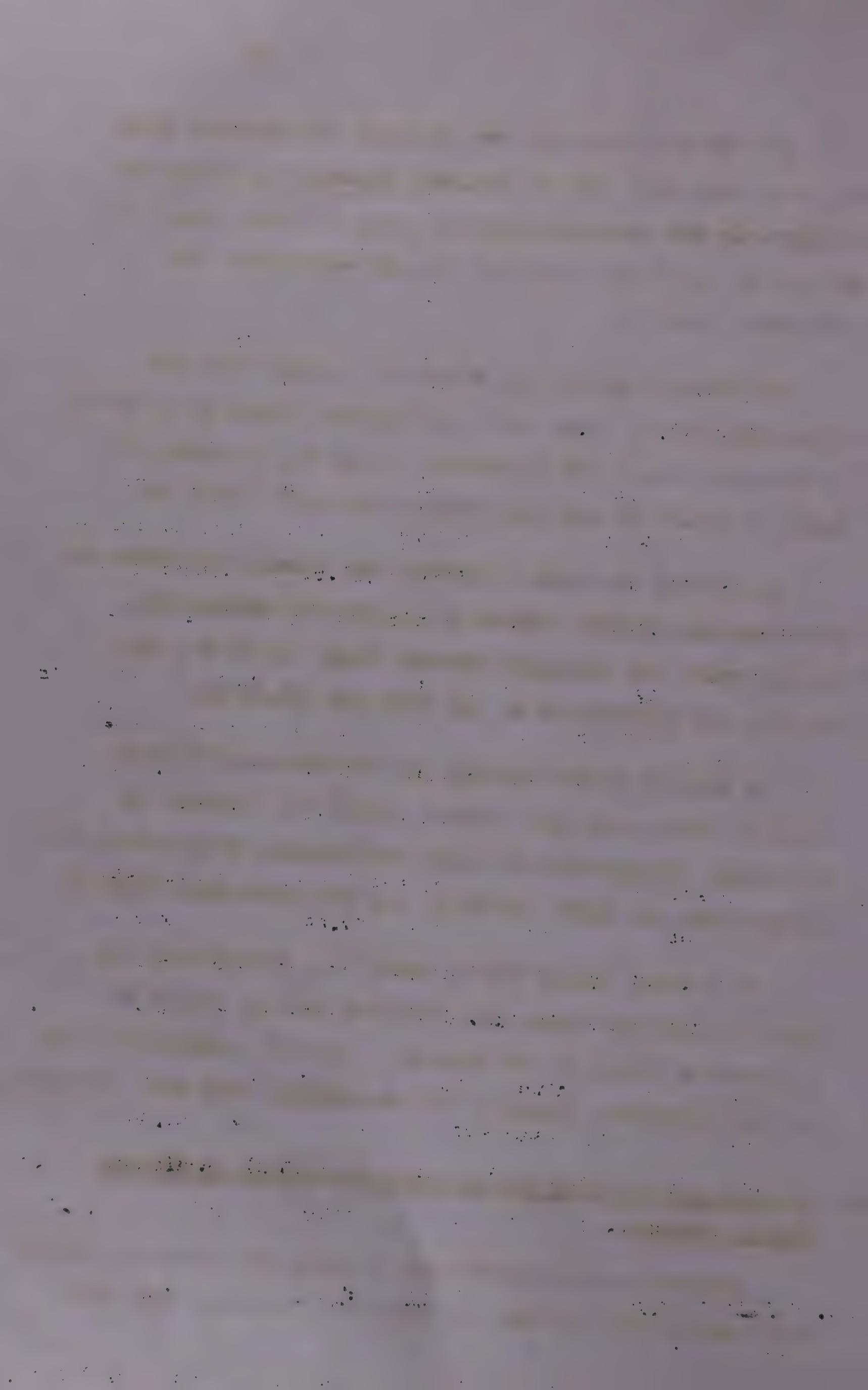
Similarly, in taluk hospitals the Vitamins and Minerals were consumed highest (26.39 %) followed by Analgesics, antipyretics and anti-inflammatory drugs (19.70 %), Antibiotics and sulfa(17.79 %) and Antacids (13.49 %).

In Primary Health Centres the Vitamins and Minerals group of drugs were used highest (27.68 %), followed by Analgesic, antipyretic and anti-inflammatory drugs (26.23 %), Antibiotics and sulfa (10.36 %) and Antispasmodics (9.67 %).

In Primary Health Units, Analgesic, antipyretic and anti-inflammatory drugs were consumed highest (40.69 %) followed by Vitamins and Minerals (12.15 %), Andidiarrhoeals and Anti-amoebics (10.90 %) and Antibiotics and sulfa (7.15 %).

15. Utilisation of Drugs for National Programmes in Primary Health Centres

Information on utilisation of drugs for malaria, leprosy and tuberculosis in PHCs is shown in Table-10. Here also



the number of tablets, capsules, ampules, vials were added together in the respective drug groups. It is found that Anti-malarial drugs were used maximum (81.38 %) followed by Anti-leprosy drugs (13.54 %) and Anti-tuberculosis drugs (5.08 %).

Similarly, Table 11 shows the utilisation of vaccines in Primary Health Centres. It is seen that tetanus toxoid was utilised maximum (22.06 %) followed by oral polio vaccine (19.80 %), DPT (18.99 %), D & T (16.19 %), typhoid vaccine (11.50 %) and BCG (11.46 %).

16. Availability of Life Saving Drugs in Hospitals

There are more than twenty drugs which have been identified as life saving drugs by the Therapeutic Committee (Appendix-1). Availability of life saving drugs in various hospitals at the time of study is discussed below.

It was found that items like Betamethasone vials, Insulin vials, Methyl ergometrine, Diphtheria anti-toxin, Mannitol 20 %, Anti-rabies vaccine were out of stock for nearly six months in one of the four teaching hospitals. Tetanus anti-toxin and Dopamine hydrochloride were out of stock in 2 and 3 hospitals respectively for nearly 6 months.

Similarly, items like Digoxin, Mephentermine, Adrenaline, Hydrocortisone sodium succinate, Insulin, Oxytocin, Diphtheria anti-toxin, Mannitol, Dopamine hydrochloride and anti-rabies

vaccine were out of stock for more than 6 months in one of the four teaching hospitals.

In district hospitals it was found that Mephentermine, Hydrocortisone sodium succinate, Betamethasone, Insulin, Oxytocin, Sodium bicarbonate and Mannitol were out of stock in one of the four district hospitals and Adrenaline was out of stock in three district hospitals. Items like Digoxin, Mephentermine, Hydrocortisone sodium succinate, Insulin, Diphtheria anti-toxin and Sodium bicarbonate were out of stock for more than 6 months in one of the district hospitals and for another district hospital there was no supply of many items like Mephentermine, Dexamethasone, Hydrocortisone sodium succinate, Insulin, Diphtheria anti-toxin, Mannitol, Dopamine hydrochloride and Anti-rabies vaccine.

Drugs like Insulin, Tetanus anti-toxin, Sodium bicarbonate, Mannitol and Dopamine hydrochloride were not at all supplied to any of the four taluk hospitals and drugs like Digoxin, Hydrocortisone sodium succinate, Betamethasone, Pyridine Aldoxime methiodide and Anti-rabies vaccine were not at all supplied to three taluk hospitals. Drugs like Mephentermine, Dexamethasone, Methyl ergometrine, Oxytocin were not at all supplied to two taluk hospitals and drugs like Digoxin and Adrenaline were out of stock in one taluk hospital for more than 6 months.

Out of twelve PHCs studied, for all the PHCs there was no supply of drugs like Insulin, protamine zinc, Diphtheria anti-toxin, Pyridine alodoxime methiodide. For eleven PHCs there was no supply of the following drugs; Tetanus anti-toxin, Dopamine hydrochloride and Anti-rabies vaccine. For ten PHCs there was no supply of drugs like Digoxin, Mephentermine, Sodium bicarbonate, Mannitol and for nine PHCs there was no supply of Insulin zinc suspension (Lente) and Mannitol. For eight PHCs there was no supply of Adrenaline and Insulin, and for seven PHCs there was no supply of Hydrocortisone sodium succinate and Oxytocin. There was no supply of Dexamethasone and Methyl ergometrine to five PHCs and the following drugs were out of stock for more than 6 months in more than one PHC; Digoxin, Mephentermine, Adrenaline, Dexamethasone, Hydrocortisone sodium succinate, Insulin, Methyl ergometrine, Oxytocin and Mannitol.

In two PHUs, except Atropine Sulphate and Oxytocin which were in stock and Adrenaline which was in stock in one PHU, all others were out of stock and most of them were not at all supplied.

Similarly, almost all life saving drugs were not supplied to one of the specialised hospitals.

Out of a total of 28 hospitals visited, except one PHC, all other hospitals had refrigerators which were in working condition.

Regarding the knowledge of MOH of PHCs about the provision to purchase emergency drugs worth Rs.50/-, eleven out of 12 MOH said that they knew the provision but were not utilising it. This is because of the difficulty in getting the amount reimbursed from the office of the DH & FWO. However, only one MOH was utilising this provision.

17. Drugs Position in Sub-Centres

Sub-Centres are supplied with package of drugs worth Rs.2,000/- per annum from GMS through MOH of PHC. Out of 12 PHCs studied, 8 PHCs received drugs for Sub-Centres which were supplied to them. But 4 PHCs did not receive any drugs for Sub-Centres.

III

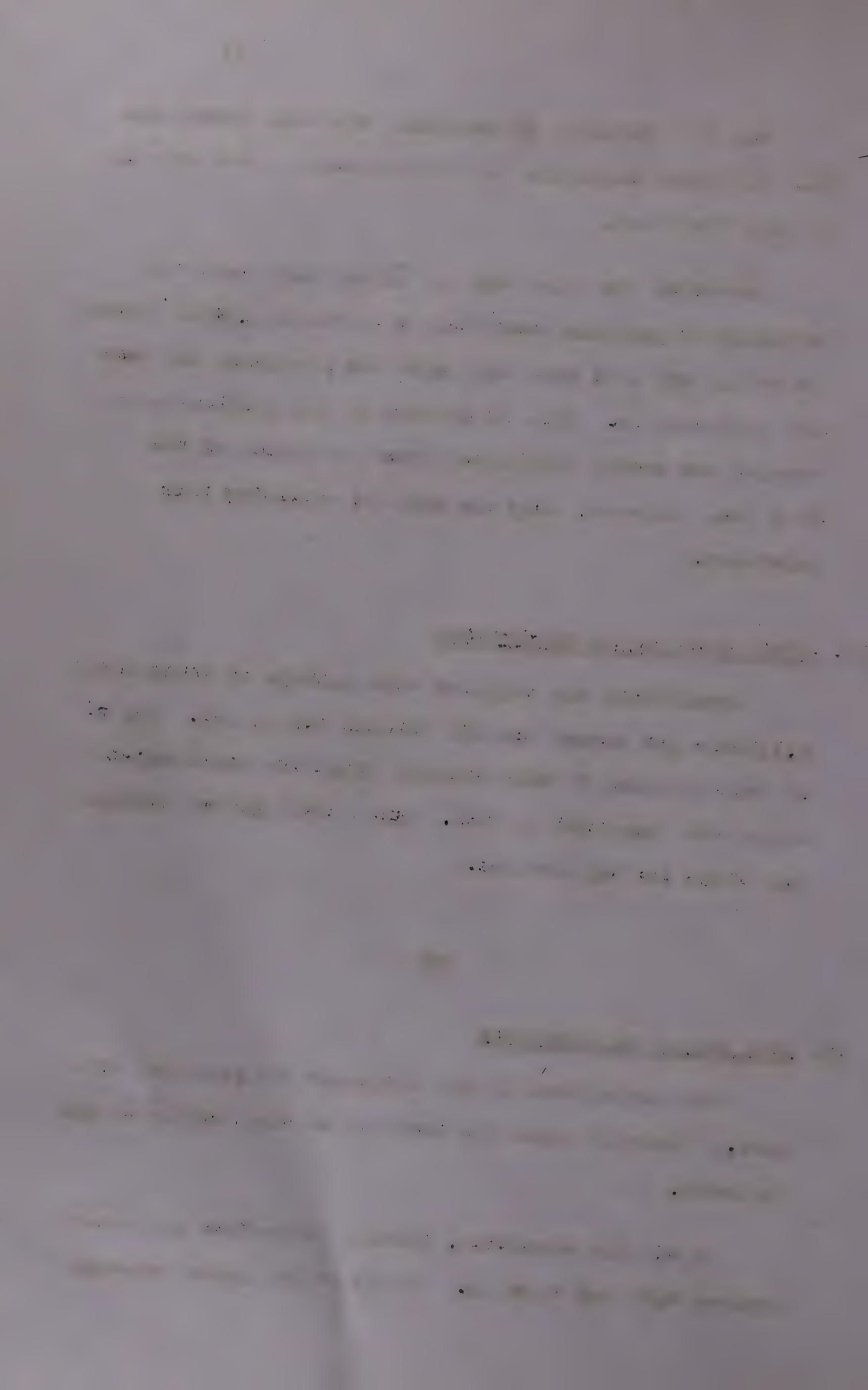
18. Diet Supply in Hospitals

The in-patients in the hospitals are provided with diet. Table-12 shows the schedule of diet supply to the patients.

In all the hospitals, morning tea/coffee is served between 6.00 and 6.30 am. Breakfast is served between

DR-300





8.00 and 9.00 am. It consists of basic diet i.e. milk and bread. Only in specialised hospitals one egg is added to breakfast.

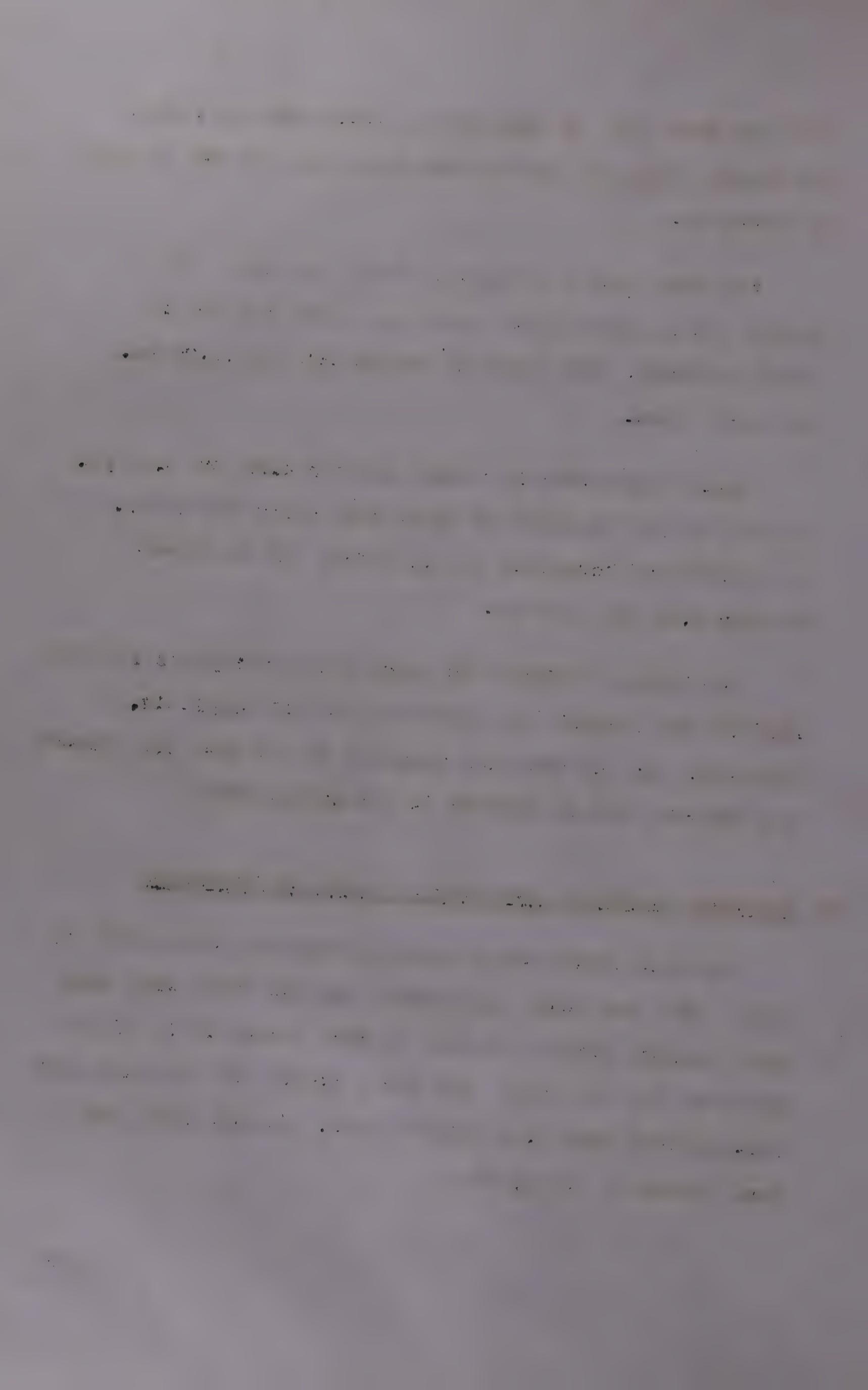
For noon lunch, rice, dal, curry and curds are served and in specialised hospitals again one egg is added to lunch. The lunch is served between 11.00 am. and 12.00 noon.

Again tea/coffee is served between 4.00 and 5.00 pm. Evening supper consists of rice, dal, curry and curds. In specialised hospitals egg is added. It is served between 6.00 and 7.30 pm.

The budget allotted for diet during the years 1984-85, 1985-86 and 1986-87 was sufficient in all hospitals. (However, for one district hospital it was less for 1984-85 and 1985-86, but in 1986-87 it was sufficient).

19. Problems Regarding Management of Diet in Hospitals

As such there was no problem regarding management of diet. But some RMDs complained that the staff will show good quality samples of diet to them before it is distributed to the patients. But the patients are supplied with sub-standard diet i.e. diluted milk, diluted curry and less pieces of bread, etc.



One KMO said that in rare cases of strike by the suppliers the hospital may not get bread and milk. Then it becomes difficult to manage diet. KMOs suggested that they should be authorised to purchase items like bread and milk from open market on such occasions.

It is found that in all the hospitals all the patients (100 %) were accepting diet except in taluk hospitals where only 80 per cent were accepting diet. The possible reason for 20 per cent of the patients in the taluk hospitals not accepting diet is that they are not well organised.

It is surprising to note that out of 12 PHC medical officers nobody knew regarding provision of budget of Rs.6,000/- per annum towards diet for the PHC.

XI. Suggestions for Improving the Drug Situation in Hospitals

Suggestions given by different respondents for improving the drugs position in different type of hospitals are as follows:

1. Teaching and District Hospitals

- i. Divisional medical stores may be created.
- ii. Budget for the drugs will have to be increased.
- iii. Unindented drugs may be avoided.
- iv. Supply of sub-standard drugs may be stopped.
- v. Rate contract should be cancelled.

- vi. Approved KC firms should be intimated to all the institutions well in time.
- vii. GMS should supply good quality drugs.
- viii. Government can procure drugs directly from standard companies and supply to all the hospitals.
- ix. Forty per cent budget may be released at the beginning of the year.
- x. The intimation of budget must be made in the beginning of the year.
- xi. Cold storage facilities may be provided.
- xii. RC firms should be able to supply all the drugs.

2. Taluk Hospitals

- i. RC firms should be able to supply good quality of drugs.
- ii. Drugs should be supplied according to time schedule.
- iii. There should be provision to procure drugs locally.
- iv. Indented drugs should be supplied without any modification of indents.
- v. All the 100 per cent drugs should be supplied from GMS.
- vi. Divisional medical stores may help to improve the situation.
- vii. I.V. fluids should be supplied more.
- viii. RC and GMS should have equal share.
- ix. List of KC should be supplied to all the institutions.
- x. Budget should be released early.
- xi. Tablets supplied to the hospitals should be in strip packages.

3. Primary Health Centres

- i. Drugs should be from the standard companies.
- ii. Emergency drugs (life saving drugs) should be supplied adequately.
- iii. Oxygen cylinders should be supplied wherever sterilisation operations are performed.
- iv. Tablets may be supplied in different colours.
- v. Supply of mixtures may be discontinued.
- vi. Unindented drugs should not be sent.
- vii. Drugs may be supplied twice a year.
- viii. Budget may be increased.
- ix. Routine drugs may be supplied adequately.
- x. Drugs should be supplied according to time schedule.
- xi. MOH should be given powers to procure drugs.
- xii. Service charges for GMS should not be used from drugs budget.
- xiii. By the time the medical officer received the list of drugs that are available at the GMS it will be nearly 3 to 4 months and by the time the MOH sends the requisition for these items and by the time the GMS starts processing the drugs which were said to be available and requested by the MOH, it will not be available at all. So, MOH suggests that the time lag should be reduced.

4. Primary Health Units

- i. Unwanted drugs should not be supplied.
- ii. Drugs are not sufficient. Adequate drugs may be supplied.
- iii. Indenting system should be introduced to PHUs also.

5. Specialised Hospitals

- i. Half yearly indents system may be introduced.
- ii. Drugs with short expiry date should not be supplied.
- iii. Unindented drugs should not be supplied.
- iv. Drugs should be supplied in time.
- v. Drugs are to be supplied from standard companies.
- vi. Medical officer should be allowed to purchase 40 % of drugs directly from standard companies.

XII. Suggestions for Improving the Diet Situation in Hospitals

1. Teaching and District Hospitals

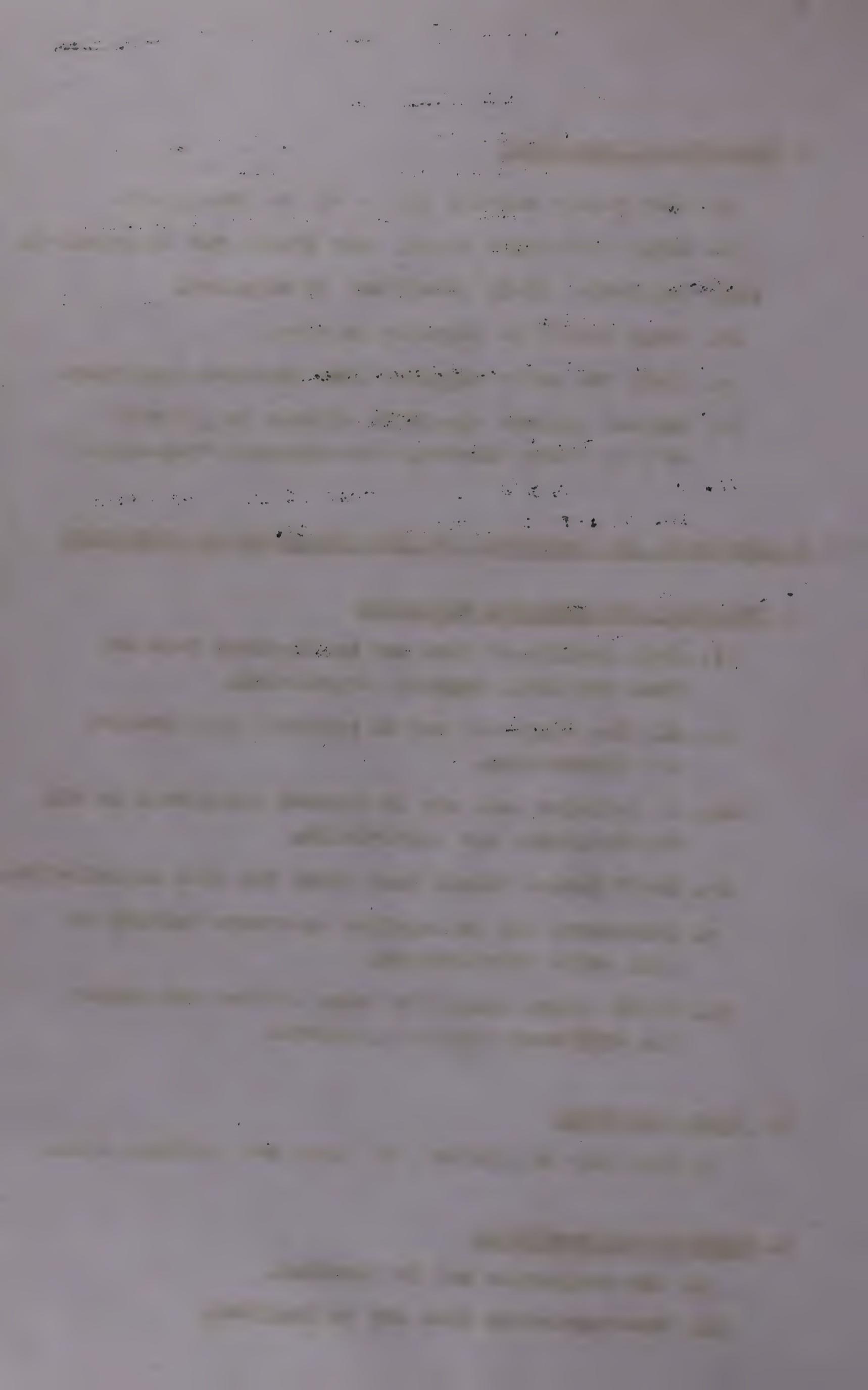
- i. Good quality of rice may be supplied from the Food and Civil Supplies Department.
- ii. All the hospitals may be provided with cooking gas connections.
- iii. A dietician post may be created and posted to all the hospitals for supervision.
- iv. Staff nurses should look after the diet distribution.
- v. Lactometer may be supplied to ensure quality of milk while distribution.
- vi. Staff nurses should be aware of the diet scale for different types of patients.

2. Taluk Hospitals

- i. Diet may be provided to floor bed patients also.

3. Specialised Hospitals

- i. AEH facilities may be provided.
- ii. Non-vegetarian food may be supplied.



XIII. Beneficiaries of Drugs

A total of one hundred and fifty four patients were interviewed (Table-13), out of whom 43 (28 %) had availed in-patient services and 111 (72 %) had availed out-patient services. About 78 per cent availed services for sickness, 1.3 per cent for immunisation, 7.9 per cent for health checkup of children, 3.2 per cent ANC checkup, 1.3 per cent for delivery, 5.8 per cent for family planning and 2.6 per cent for others. One hundred and sixteen patients (75 %) received drugs from the hospital supply during treatment and 37 (24 %) received drugs only partially and one (0.7 %) said he did not receive any drugs. The reason given by them for not getting drugs from the hospital supply was that they were not available in the hospital and all of them said that they managed drugs by purchasing them from private drug stores.

XIV. Record Maintenance

The record maintenance at some of the hospitals, especially in PHCs was lacking for its accuracy and completeness.

XV. Summary

In this study, an attempt has been made to know the problems of utilisation of drugs and diet in different types of hospitals in Karnataka.

Drugs to the hospitals were supplied mainly by the GMS. The GMS has been a central stores for procurement, stocking and supply of drugs, chemicals, beddings, linen, hospital equipments and instruments. GMS supplied drugs worth 60 per cent of the allotted budget to teaching hospitals, district hospitals, specialised hospitals, taluk hospitals and PHCs and 100 per cent to PHUs, sub-centres (package supply) and 40 per cent of the drugs were supplied from rate contract (RC) firms/DH & FWOs.

The problems of drugs and diet were studied in 28 different hospitals, comprising 4 teaching hospitals, 4 district hospitals, 2 specialised hospitals, 4 taluk hospitals, 12 Primary Health Centres and 2 Primary Health Units in Karnataka.

Forty three per cent of doctors had equal preference for injections and oral preparations, but 72 per cent said that their patients preferred injections.

The record maintenance at some of the hospitals, especially in PHCs, was lacking for its accuracy and completeness.

In 1984-85, 21.4 per cent of the hospitals were supplied with drugs worth less than the budget and 10.7 per cent of the hospitals were supplied with excess drugs. In 1985-86, 15.4 per cent of the hospitals were supplied with drugs worth less than the budget and

21.4 per cent were supplied with excess drugs. Similarly, in 1986-87, 17.9 per cent were supplied less and another 17.9 per cent were supplied excess.

Regarding quantity of drugs supplied by GMS, 61.8 per cent said that the drugs were not sufficient and 57.2 per cent said that drugs supplied by RC firms/DH & FWOs were not sufficient.

Overall, 35.8 per cent of doctors said that the quality of drugs supplied by GMS was good, 53.5 per cent said that it was fair and 10.7 per cent said it was poor. Similarly, 50 per cent of doctors said that the quality of drugs supplied by RC firms was good, 46.2 per cent said it was fair and 3.8 per cent said it was poor. It may be noted that the percentage of doctors who said that the quality of drugs supplied by GMS was higher than that of doctors who said the same about the drugs supplied by RC firms.

Out of 26 indenting hospitals, 46.2 per cent had prepared indents based on disease pattern, 38.5 per cent on previous years' experience, 3.8 per cent on both disease pattern and population, another 3.8 per cent on disease pattern and previous years' experience and 7.7 per cent indents were prepared based on the budget provision.

Out of 16 hospitals which were getting drugs both from GMS and DH & FWOs, only 43.7 per cent were sending separate indents to GMS and DH & FWOs.

It was found that about 62 per cent of hospitals had sent the indents to GMS in the scheduled month. 15 per cent had sent one month late, about 4 per cent had sent two months late and about 12 per cent had sent three months late. For 31 per cent of hospitals, drugs from GMS were supplied during the scheduled month of supply, for about 19 per cent drugs were supplied one month late, about 15 per cent two months late and for about 12 per cent three months late.

For many hospitals there was difference in drugs indented by the hospitals and drugs actually supplied by GMS. It was found that for 4 teaching hospitals 15 to 25 items were supplied 0.6 per cent to 100 per cent less in quantity than the indented.

For 4 district hospitals 12 to 36 items were supplied 2 per cent to 100 per cent less and 11 to 31 items were supplied 2 per cent to 900 per cent excess and two district hospitals were supplied with unindented drugs, i.e. 15 items for one hospital and one item for the other.

Similarly, for two taluk hospitals 29 to 30 items were supplied 3.4 per cent to 100 per cent less and 9 to 15 items were supplied 6 per cent to 600 per cent excess. The unindented drugs supplied were 17 items for one hospital and one item for the other.

In the two specialised hospitals studied it was found that 5 to 28 items were supplied 9 per cent to 100 per cent

less and 1 to 9 items were supplied 6 per cent to 420 per cent excess and only one unindented item was supplied to one of the hospitals.

For all the 12 PHCs studied, 4 to 79 items were supplied 10 to 100 per cent less and 1 to 12 items were supplied 7 per cent to 500 per cent excess. Unindented items varied from 1 to 9.

Only one teaching hospital and one PHC were supplied one item and two items of drugs nearing expiry date respectively.

It was found that 17 out of 26 indenting hospitals studied were supplied with unindented drugs varying from 0.7 per cent to 20.1 per cent of the total cost of drugs supplied.

The drugs group Analgesic, antipyretic and anti-inflammatory drugs were consumed highest followed by Vitamins and Minerals group of drugs, Antibiotics and Sulfa group, Anti-diarrhoeals and Anti-amoebics group, Anti-histamines and Cortisones group, Antacids group, Anti-asthamatics group and others.

Regarding drugs for national programmes, Anti-malarial drugs were consumed highest followed by Anti-leprosy drugs and Anti-tuberculosis drugs.

It was found that in many hospitals life saving drugs were out of stock for more than 6 months and for many hospitals there was no supply at all.

Eleven out of 12 MOH of PHCs studied had knowledge regarding provision to purchase emergency drugs worth Rs.50/- but not utilising it. This is because of the difficulty in getting the amount reimbursed from the office of the DH & FWOs.

It is found that the budget for diet was sufficient in all the hospitals (teaching hospitals, district hospitals, taluk hospitals and specialised hospitals).

It is surprising to note that none of the MOH of PHCs knew regarding provision of budget of Rs.6,000/- towards diet for the PHC.

Various suggestions have been given by district surgeons and MOHs in order to improve drugs position in hospitals. Some of them are to increase the budget for drugs to the hospitals, and to release budget for drugs early and to create divisional medical stores at four revenue headquarters, so that the drugs could be supplied to the hospitals without any delay.

XVI. Policy Implications

The following are the policy implications of the study:

- i. As suggested by some of the respondents, divisional medical stores may be created. This facilitates quick delivery of drugs to the hospitals.
- ii. Budget should be increased as the cost of drugs has gone up and number of patients are increasing day by day.
- iii. MOH should be given powers to purchase life saving drugs.
- iv. Budget for drugs should be released early.

Appendix-1

Table-1

Staff Position in Different Types of Hospitals

	No. of Doctors sanctioned	No. of Doctors in position
Teaching Hospitals	132 (100.0)	125 (.94.7)
District Hospitals	82 (100.0)	78 (95.1)
Taluk Hospitals	19 (100.0)	18 (94.7)
Primary Health Centres	30 (100.0)	27 (90.0)
Primary Health Units	2 (100.0)	2(100.0)
Specialised Hospitals	13 (100.0)	13(100.0)
Total	278 (100.0)	263 (94.6)

Figures in brackets indicates percentage

Table-2

Average Number of Out-patients, In-patients and Bed-strength

Type of Hospital	No. of Out-patients			Average No. of In-patients	Average Bed-strength
	New	Old	Total		
Teaching Hospitals	185243.7	170356	355599.7	13583	642
District Hospitals	161899.7	62601.7	224501.5	9668	218.5
Taluk Hospitals	35240.7	15813.7	51054.3	2720.3	61.7
Primary Health Centres	10609.9	3181.9	13791.8	90.4	7.2
Primary Health Units	9715	NA	9715	-	-
Specialised Hospitals	13873.5	11071	24944.5	1358	247

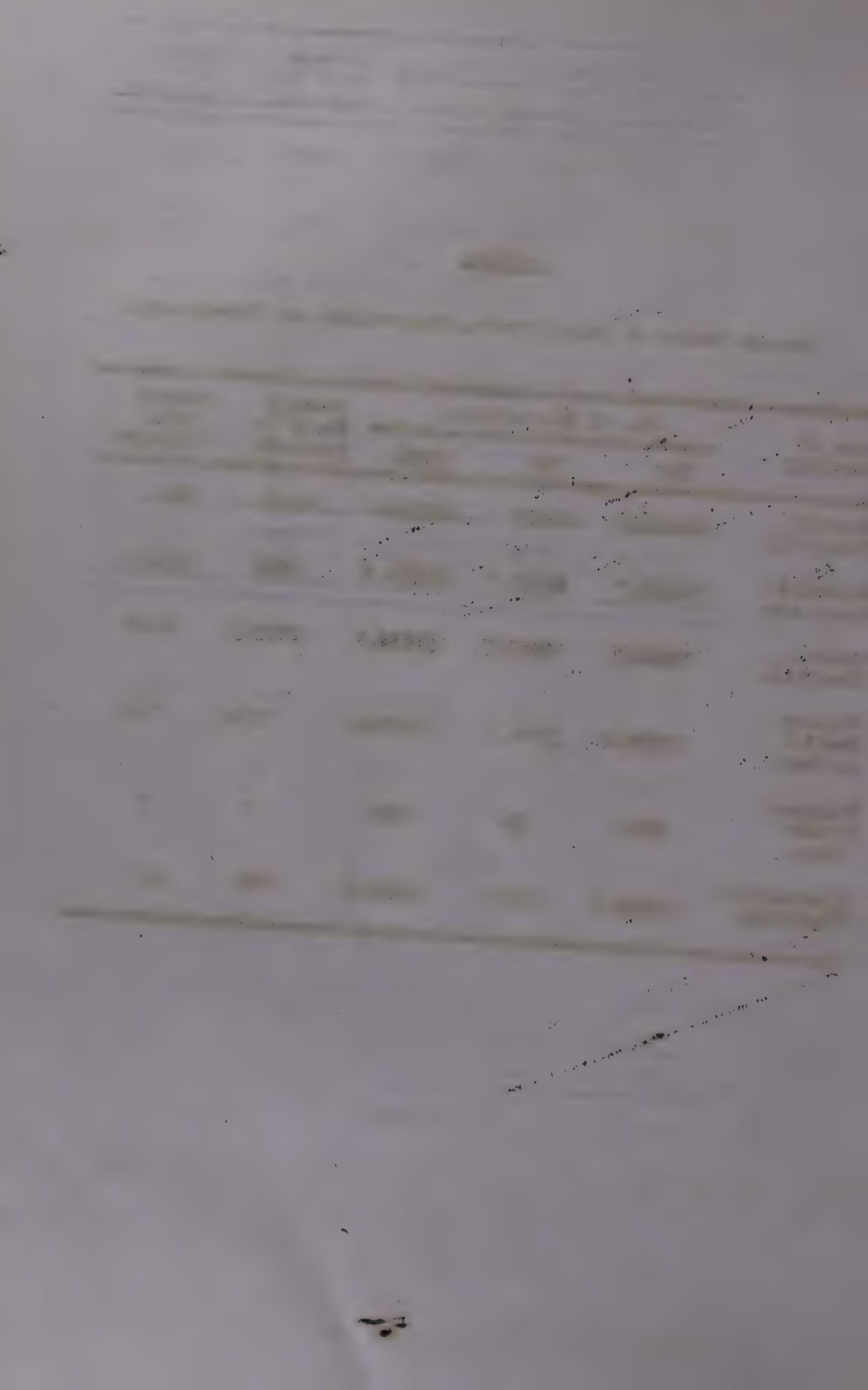


Table-3

Difference Between the Budget Allotted and Drugs Supplied by
GMS and RC/DH&FWO

Year/Quantity	Number of Hospitals				Total
	Less Supplied	Same Supplied	Excess Supplied	No Information	
Teaching Hospitals					
1984-85	1	1	1	1	4
1985-86	-	-	3	1	4
1986-87	-	-	3	1	4
District Hospitals					
1984-85	2	2	-	-	4
1985-86	2	2	-	-	4
1986-87	2	2	-	-	4
Taluk Hospitals					
1984-85	1	1	-	2	4
1985-86	1	1	-	2	4
1986-87	1	1	-	2	4
Primary Health Centres					
1984-85	1	5	2	4	12
1985-86	-	5	3	4	12
1986-87	2	5	2	3	12
Primary Health Units					
1984-85	-	1	-	1	2
1985-86	-	1	-	1	2
1986-87	-	1	-	1	2
Specialised Hospitals					
1984-85	1	-	-	1	2
1985-86	1	-	-	1	2
1986-87	1	-	-	1	2
Total 1984-85	6 (21.4)	10 (35.81)	3 (10.7)	9 (32.1)	28 (100.0)
1985-86	4 (15.4)	9 (32.1)	6 (21.4)	9 (32.1)	28 (100.0)
1986-87	6 (21.4)	9 (32.1)	5 (17.9)	8 (28.6)	28 (100.0)

Figures in brackets indicates percentage

Table 4

Opinions of Doctors About the Quality or Drugs Supplied by CHS and RC Firms/DHATO

District Hospitals	Teaching Hospitals		Taluk Hospitals		PHC		Specialised Hospitals	
	Drugs	Drugs	Drugs	Drugs	Drugs	Drugs	CHS	RC Firms
Good	3	1	1	—	3	2	7	1
Fair	1	3	2	3	1	8	5	1
Poor	—	—	1	1	—	—	2	—
Total	4	4	4	4	4	12	12	2

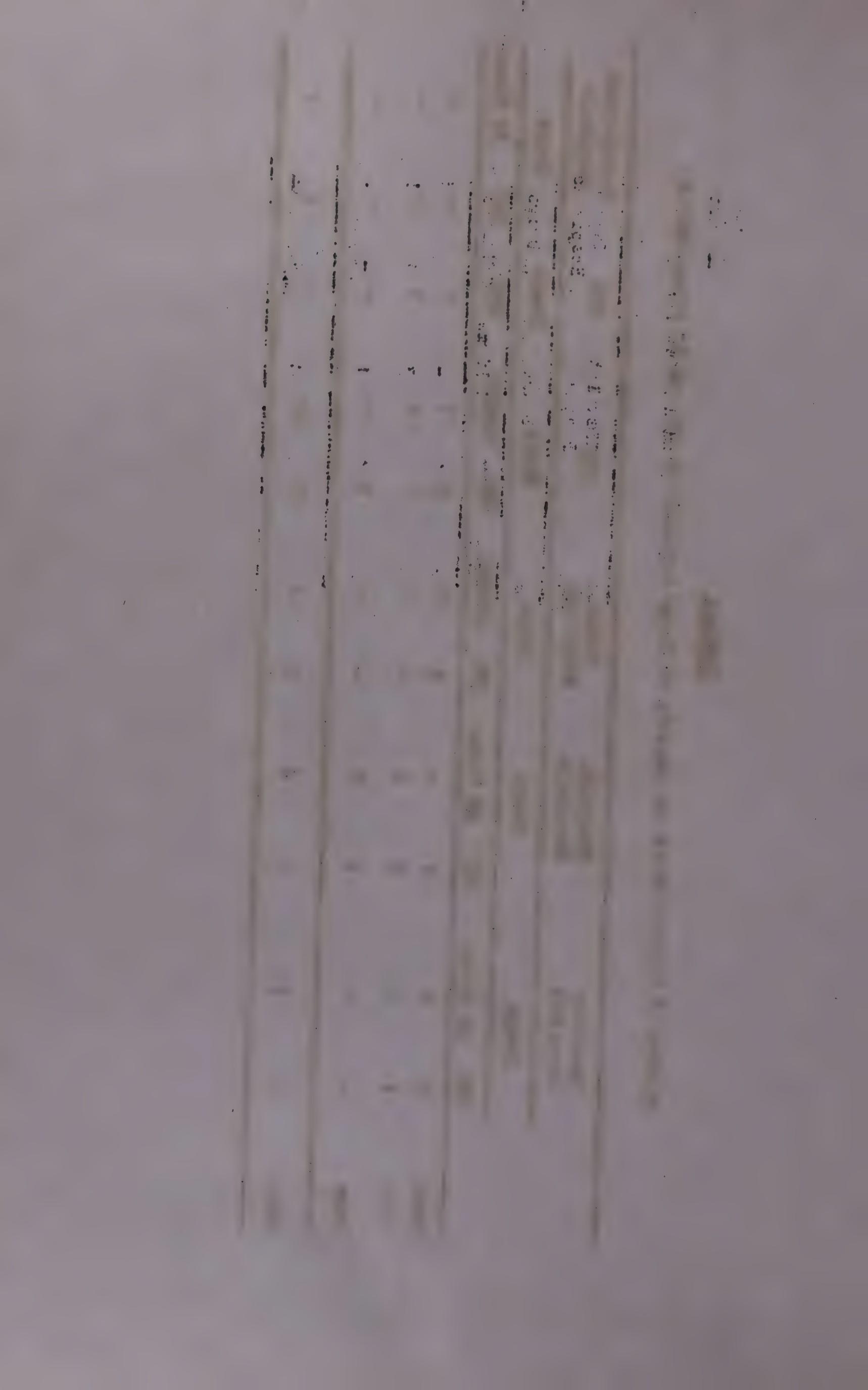


Table 2

Basis for the Preparation of Drug Indent by Type of Hospitals

Sl. No.	Type of Hospitals	Based on disease pattern & previous years experience (3+4)			Based on disease pattern & previous years experience (4+5)			Based on population and previous years experience (5+6)		
		Based on disease pattern & previous years experience (3+4)	Based on disease pattern & previous years experience (4+5)	Based on population and previous years experience (5+6)	Based on disease pattern & previous years experience (4+5)	Based on disease pattern & previous years experience (5+6)	Based on population and previous years experience (6+7)	Based on disease pattern & previous years experience (4+5)	Based on population and previous years experience (6+7)	Based on population and previous years experience (6+7)
1.	Teaching hospitals	1	-	3	-	-	-	-	-	-
2.	District hospitals	2	-	1	1	4	-	-	-	-
3.	Taluk hospitals	2	-	2	-	-	-	-	-	-
4.	Primary Health Centres	6	-	3	1	2	-	-	-	-
5.	Primary Health Units*	-	-	-	-	-	-	-	-	-
6.	Specialised hospitals	1	-	1	-	-	-	-	-	-
Total		12 (46.2)	-	10 (38.5)	1 (3.8)	1 (3.8)	1 (3.8)	2 (7.70)	-	-

* Not applicable as they are given package indents

Figures in brackets indicate percentage

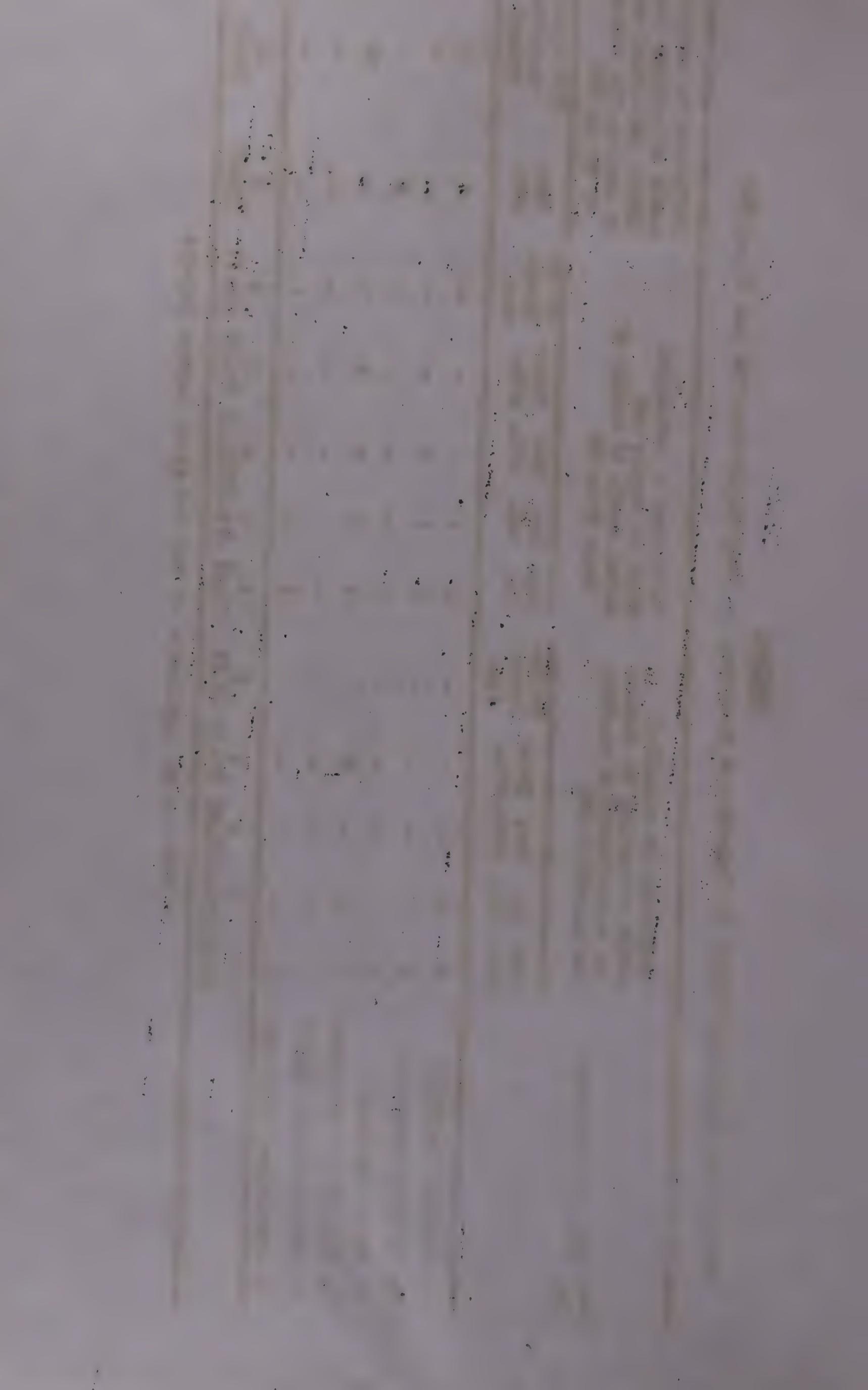


Table-7

Particulars of Unidented Drugs Supplied by Government Medical Stores During 1986-87

Sl. No.	Hospital	Cost of drugs supplied from GMS	Cost of unindenteds drugs sup- plied from GMS	Percentage
I. Teaching Hospital				
1.	K.C. General Hospital Bangalore	7,20,000	Nil	-
2.	District Hospital, Mangalore	23,74,208	Nil	-
3.	District Hospital, Belgaum	21,65,944	79,568	3.67
4.	District Hospital, Gulbarga	21,44,907	42,513	1.98
II. District Hospital				
1.	District Hospital, Kolar	6,00,000	Nil	-
2.	District Hospital, Chickmagalur	64,179	424	0.66
3.	District Hospital, Dharwad	5,76,277	32,886	5.71
4.	District Hospital, Raichur	12,38,075	Nil	-
III. Taluk Hospital				
1.	General Hospital, Chickaballapur	90,000	18,090	20.10
2.	General Hospital, Mudigere	90,000	2,430	2.70
3.	Project Hospital, Munirabad		NOT AVAILABLE	
4.	General Hospital, Savanur		NOT AVAILABLE	
IV. Primary Health Centres				
1.	Kamasamudra	18,000	2,033	11.29
2.	Masthi	18,000	325	1.80
3.	Namagondalu	25,801	2,133	8.27
4.	Gonibeedu	24,519	3,495	14.25
5.	Kalasapur	18,000	1,135	6.30
6.	Begur	16,480	1,652	10.00
7.	Matmari	18,000	Nil	-
8.	Jalahalli	26,083	1,215	4.60
9.	Jawalgere	16,221	761	4.70
10.	Morab	22,424	Nil	-
11.	Kaginelli	18,000	480	2.67
12.	Katenahalli	18,000	2,808	15.60
V. Primary Health Units				
Package Indent				
VI. Specialised Hospitals				
1.	T.B. Hospital	3,90,684	Nil	-
2.	Central Leprosorium	3,73,699	13,412	3.59

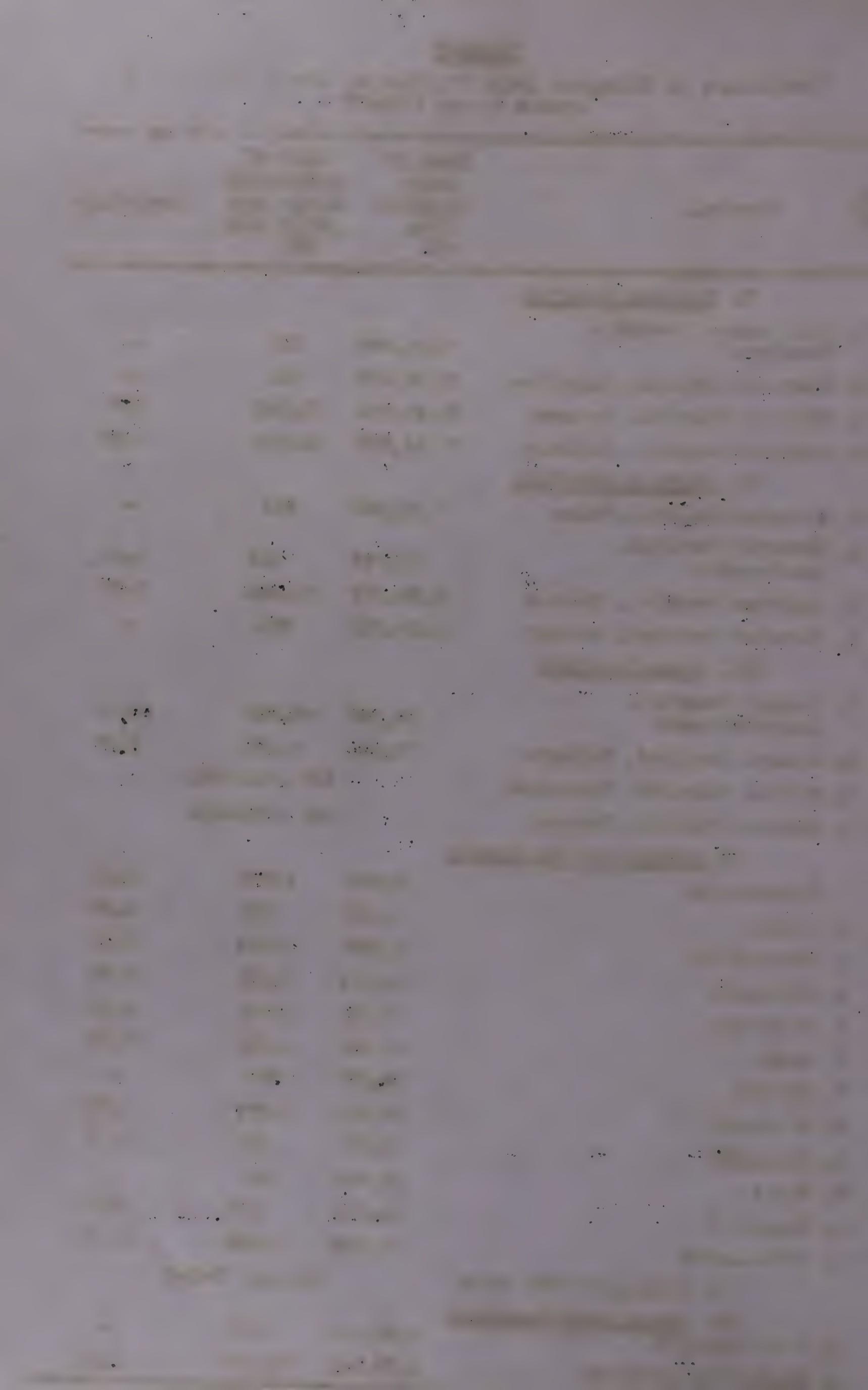


Table-8
Morbidity Pattern by Type of Hospitals

Diseases	Type of Hospitals					Specialised Hospital
	Teaching Hospital	District Hospital	Taluk Hospital	PHC	PHU	
Malaria	37 (0.01)	-	-	1826 (1.15)	-	-
Other fever	56 (0.02)	24671 (4.39)	3975 (3.62)	16238 (10.20)	891 (7.44)	-
Pneumonia	5603 (2.15)	1092 (0.19)	134 (0.12)	38 (0.02)	92 (0.77)	-
Other respiratory diseases	27692 (10.65)	75992 (13.52)	31179 (28.38)	14085 (8.85)	740 (6.18)	-
Diarrhoea	4248 (1.63)	14024 (2.50)	6929 (6.31)	7384 (4.64)	414 (3.46)	-
Dysentry	17241 (6.63)	16921 (3.01)	11193 (10.19)	6436 (4.04)	531 (4.44)	-
Other digestive diseases	33479 (12.87)	989 (0.18)	10965 (9.98)	7960 (5.00)	443 (3.70)	-
Worms	-	-	1405 (1.28)	1581 (0.99)	773 (6.46)	-
Anemia	17425 (6.70)	749 (0.13)	14230 (12.95)	2756 (1.73)	548 (4.58)	-
Ulcers	10802 (4.15)	1733 (0.31)	2272 (2.07)	1431 (0.90)	362 (3.02)	-
Other skin diseases	6324 (2.43)	1135 (0.20)	2862 (2.60)	9404 (5.91)	734 (6.13)	-
Leprosy	-	33 (0.01)	4 (0.04)	-	-	43938 (88.07)
T.B.	3906 (1.50)	4695 (0.81)	185 (0.17)	129 (0.08)	-	5951 (11.93)
Accidents	4345 (1.67)	1572 (0.28)	324 (0.29)	93 (0.06)	-	-
All others	128928 (49.59)	418357 (74.44)	24214 (22.04)	89836 (56.43)	6444 (53.82)	-
Total	260086 (100.0)	561983 (100.0)	109873 (100.0)	159197 (100.0)	11972 (100.0)	49889 (100.0)

Table 9

Utilization of Drugs during 1986-87 by Type of Hospitals

Sl. No.	Drugs classification groups*	Teaching Hospitals	District Hospitals	Taluk Hospitals	Primary Health Centres	Primary Health Units
1.	Analgesic, antipyretic and anti-Inflammatory drugs	25,00,363 (22.12)	20,49,246 (27.51)	1,45,686 (19.70)	4,24,149 (26.23)	57,165 (40.69)
2.	Anti-spasmodics	1,71,234 (1.51)	1,85,445 (2.49)	23,727 (3.21)	1,56,383 (9.67)	7,325 (5.21)
3.	Anti-histamine and cortisones	8,61,055 (7.62)	13,29,759 (17.86)	50,271 (6.80)	14,511 (0.89)	2,030 (1.44)
4.	Anti-asthamatics	7,88,625 (6.98)	5,92,625 (7.96)	2,810 (0.38)	71,773 (4.44)	7,250 (5.16)
5.	Antibiotic and sulpha	24,32,793 (21.52)	9,17,899 (12.32)	1,31,569 (17.79)	1,67,541 (10.36)	10,040 (7.15)
6.	Anti-Diarrhoeals and Anti-amoebics	5,22,047 (4.61)	3,79,860 (5.09)	56,645 (7.66)	1,60,254 (9.90)	15,310 (10.90)
7.	Antacids	5,39,888 (4.78)	3,02,155 (4.06)	99,752 (13.49)	18,264 (1.13)	7,670 (5.46)
8.	Anti-Helminthics, Wormicides and Laxatives	1,28,674 (1.14)	25,336 (0.34)	10,027 (1.35)	75,338 (4.66)	3,522 (2.51)
9.	Psychiatric drugs, Sedatives, Tranquillisers and Anti-emetic drugs	4,611 (0.04)	13,981 (0.19)	1,094 (0.14)	19,661 (1.22)	2,316 (1.65)
10.	Cardi-vascular and Anti-hypertensive drugs	1,32,860 (1.17)	42,405 (0.57)	1,750 (0.24)	411 (0.03)	-
11.	Diuretics	1,53,723 (1.36)	33,920 (0.46)	1,939 (0.26)	6,480 (0.40)	105 (0.07)
12.	Anaesthetics and Muscular relaxants	11,432 (0.10)	11,199 (0.15)	17 (0.00)	182 (0.01)	30 (0.02)
13.	Intravenous Infusion	26,948 (0.24)	2,57,528 (3.46)	11,080 (1.50)	23,032 (1.42)	3,000 (2.14)
14.	External applications	69,090 (0.61)	29,869 (0.40)	2,644 (0.36)	6,905 (0.43)	251 (0.18)
15.	Disinfectants and General anti-spetics	6,610 (0.05)	3,278 (0.04)	342 (0.05)	260 (0.02)	59 (0.04)
16.	Vitamins and Minerals	29,39,228 (26.00)	12,15,466 (16.32)	1,95,186 (26.39)	4,47,673 (27.68)	17,069 (12.15)
17.	Anti-diabetic drugs	4,000 (0.04)	33,634 (0.45)	207 (0.03)	519 (0.03)	1,000 (0.71)
18.	Others (Drugs acting on uterus, anti-haemorrhagic drugs & Antibodies)	12,071 (0.11)	25,312 (0.33)	1,780 (0.65)	24,065 (1.48)	6,350 (4.52)
	Total	1,13,05,252 (100.00)	74,48,917 (100.00)	7,39,526 (100.00)	16,17,4011 (100.00)	40,492 (100.00)

Figures in parenthesis indicate percentages.

* The number of tablets, capsules, ampules, vials, bottles, packets and jar were added in the respective drug groups.

Table-10

Utilization of Drugs for National Programmes in
Primary Health Centres

S.I. No.	Drugs classification group	Number*
1.	Anti-tuberculosis drugs	54,795 (5.08)
2.	Anti-leprosy drugs	1,46,086 (13.54)
3.	Anti-malarial drugs	8,77,812 (81.38)
	Total	10,78,693 (100.00)

Table-ii

Utilization of Vaccines in Primary Health Centres

S.I. No.	Vaccines	Numbers
1.	Tetanus Toxoid	47,295 (22.06)
2.	B.C.G.	24,573 (11.46)
3.	D.P.T.	40,699 (18.99)
4.	Polio	42,447 (19.80)
5.	D & T	34,705 (16.19)
6.	Typhoid	24,642 (11.50)
	Total	2,14,359 (100.00)

* The number of tablets, capsules, ampules and vials were added together in the respective drug groups.

Figures in parenthesis indicate percentages.

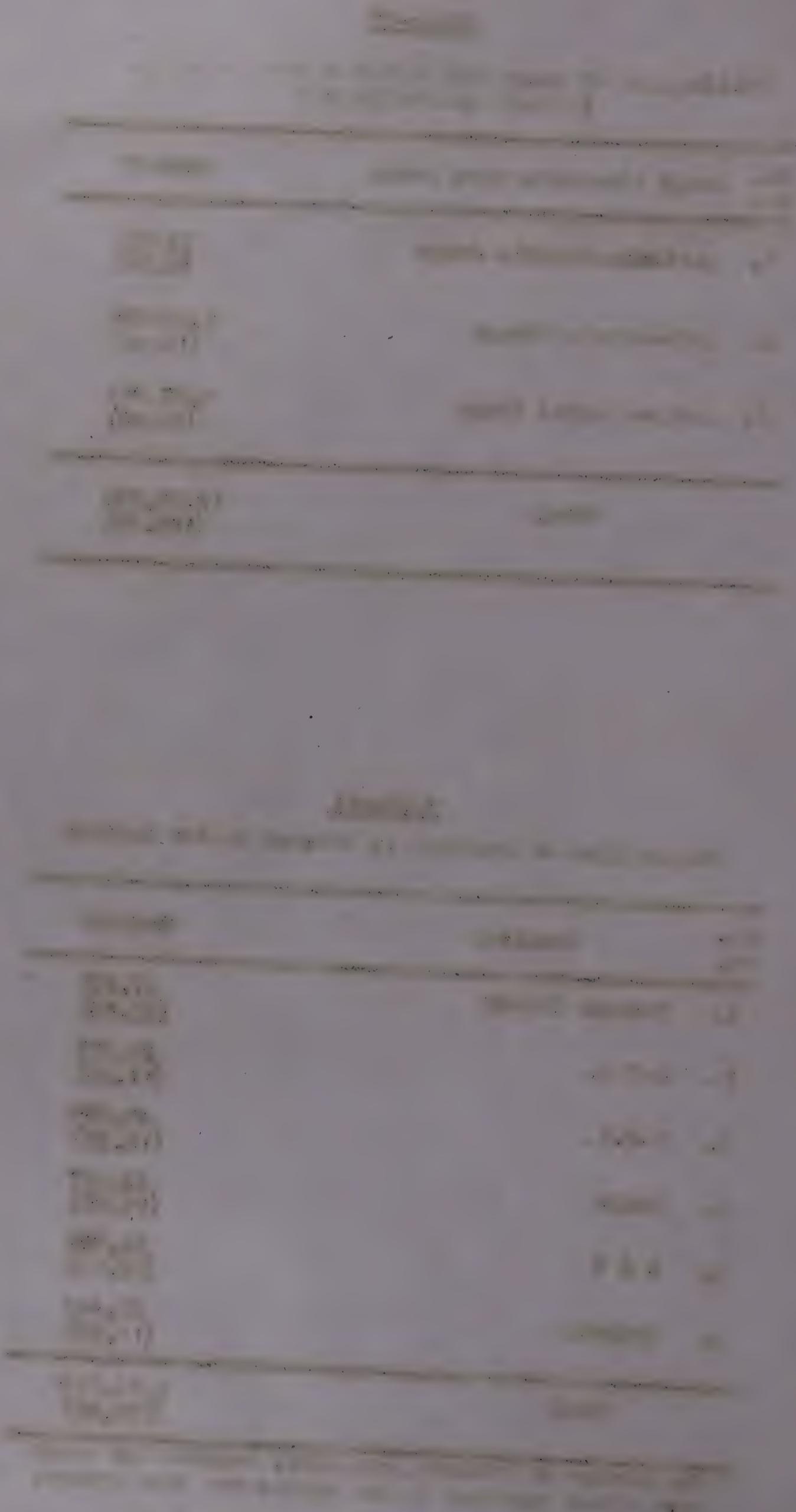


Table-12

Schedule of Diet Supply to the Patients in the Hospitals

1. Teaching/District/Taluk Hospitals

Morning	:	6.00 to 6.30 AM	-	Tea/Coffee
		8.00 to 9.00 AM	-	Breakfast: Basic diet (Milk and Bread) Milk diet (Milk 750 mls.)
Noon Lunch	:	11.00 to 12.00 Noon	-	For basic diet people: Rice, Curry, Dal and Curds (Fish is supplied at Mangalore hospital)
Afternoon	:	4.00 to 5.00 PM	-	Tea/Coffee
Evening	:	6.00 to 7.30 PM	-	Supper: Rice, Curry, Dal, Curds

2. Specialised Hospitals

Morning	:	6.00 to 6.30 AM	-	Tea/Coffee
		8.00 to 9.00 AM	-	Breakfast: (Basic diet (Milk, bread and egg))
Noon Lunch	:	11.30 to 12.30 PM	-	Rice, Dal, Curry, Curds and Egg.
Afternoon	:	4.00 to 4.30 PM	-	Tea/Coffee
Evening	:	6.00 to 7.30 PM	+	Rice, Curry, Dal, Curry and Egg.

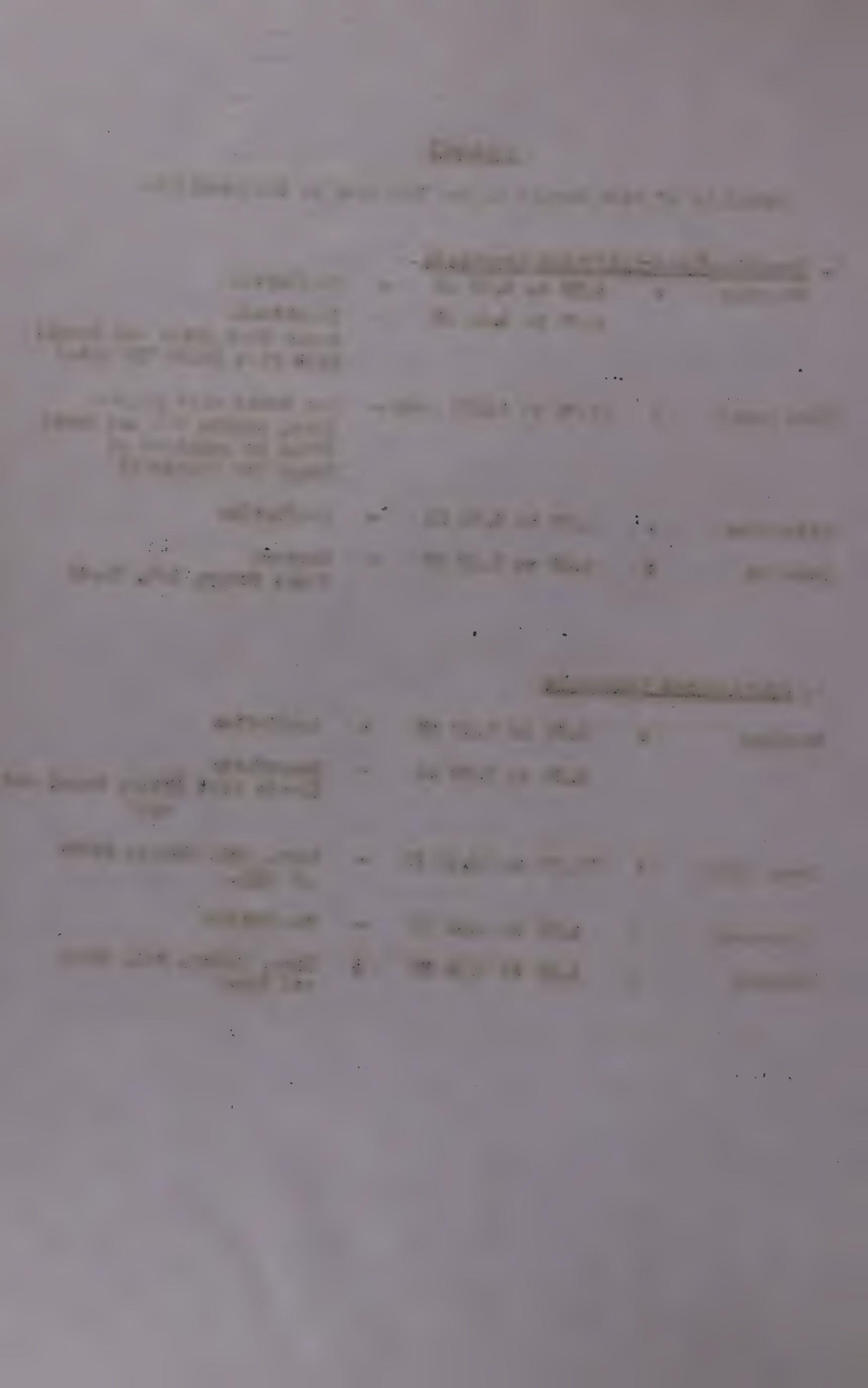
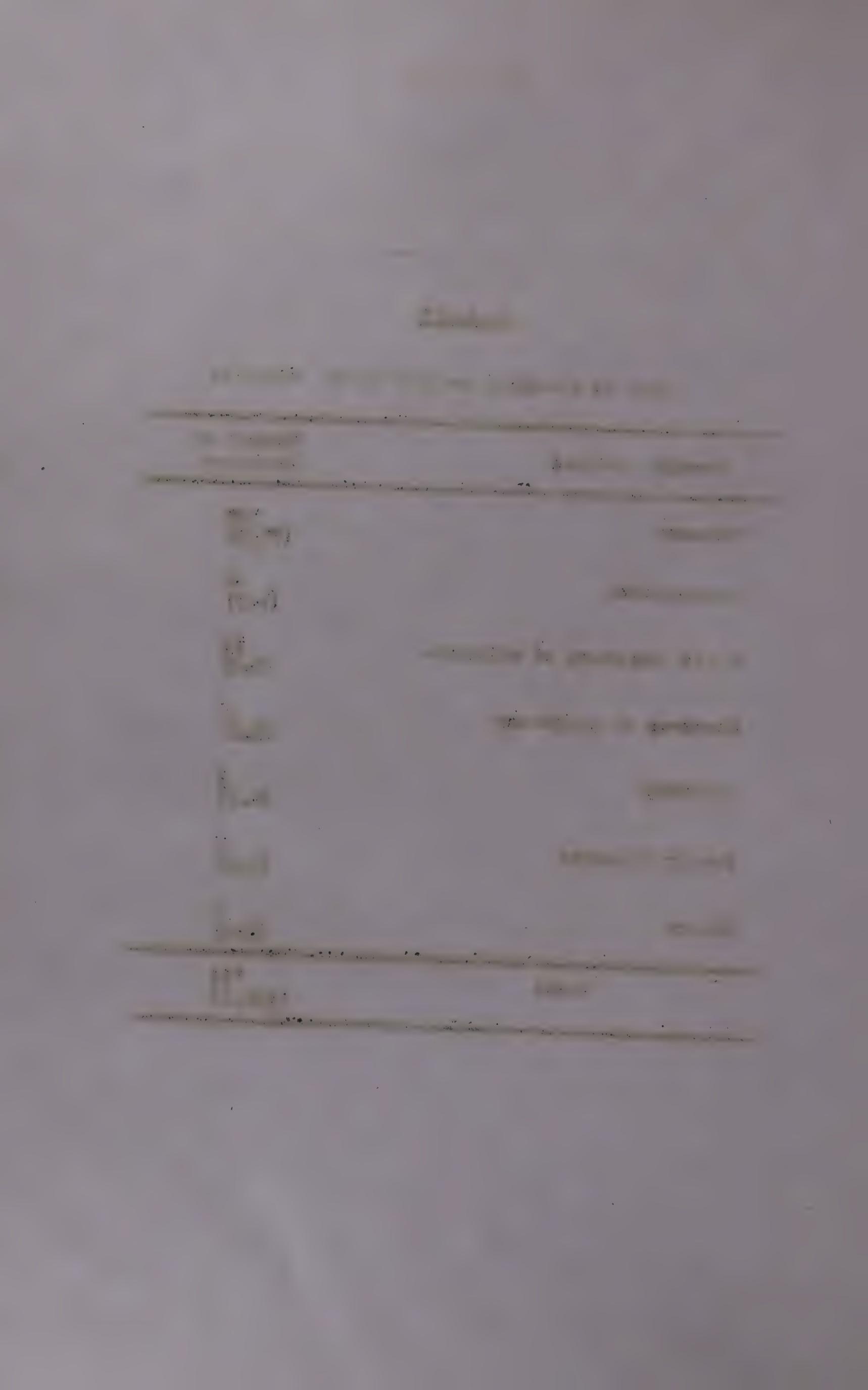


Table-13

Type of Services Availed by the Patients

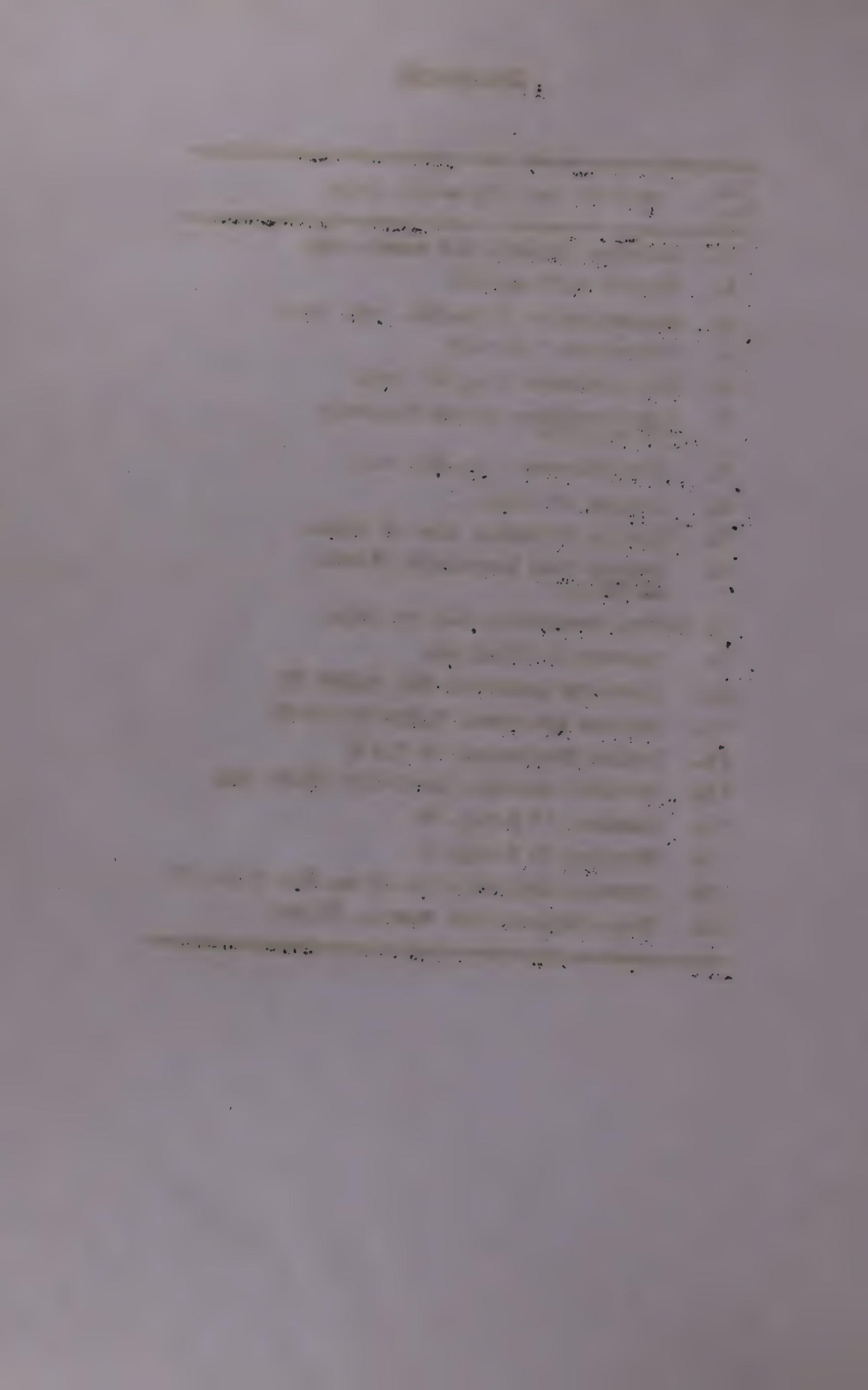
Service availed	Number of Patients
Sickness	120 (77.9)
Immunization	2 (1.3)
Health Check-up of children	12 (7.9)
Check-up of pregnancy	5 (3.2)
Delivery	2 (1.3)
Family Planning	9 (5.8)
Others	4 (2.6)
Total	154 (100.0)



Appendix-II

Sl.
No. List of the life saving drugs

1. Atropine Sulphate 0.5 mg.ml. amp.
 2. Digoxin 0.25 mg./ml.
 3. Mephentermine 30 mg./ml. amp. vials
 4. Adrenaline 1 in 1000
 5. Dexamethasone 4 mg./ml. amp.
 6. Hydrocortisone Sodium Succinate
100 mg./vial
 7. Betamethasone 4 mg./ml. vial
 8. Insulin 40 IU/ml.
 9. Insulin Protamine Zinc 40 IU/ml.
 10. Insulin Zinc Suspension (lente)
40 IU/ml.
 11. Methyl Ergometrine 0.2 mg. inj.
 12. Oxytocin 5 IU/o.5 ml.
 13. Diphteria Antitoxin NDS 10,000 IU
 14. Tetanus Antitoxin 10,000/20,000 IU
 15. Sodium Bicarbonate IU 7.5 %
 16. Pyridine Alodoxime Methiodide (PAM) inj.
 17. Mannitol 10 % inj. IV
 18. Mannitol 20 % inj. IV
 19. Dopamine Hydrochloride 40 mg./ml. 5 ml. IV
 20. Human Diploid Cell Vaccine (Rabis)
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Appendix-III

GOVERNMENT OF KARNATAKA.

POPULATION CENTRE
BANGALORE

Study of Utilisation of Drugs and Diet in Hospitals

IDENTIFICATION

1. Name of the hospital and address:

2. District: _____ 3. taluk: _____

4. Village/Town: _____

5. Type of hospital: PHU/FHC/Taluk hospital/District hospital/
Specialised Hospital

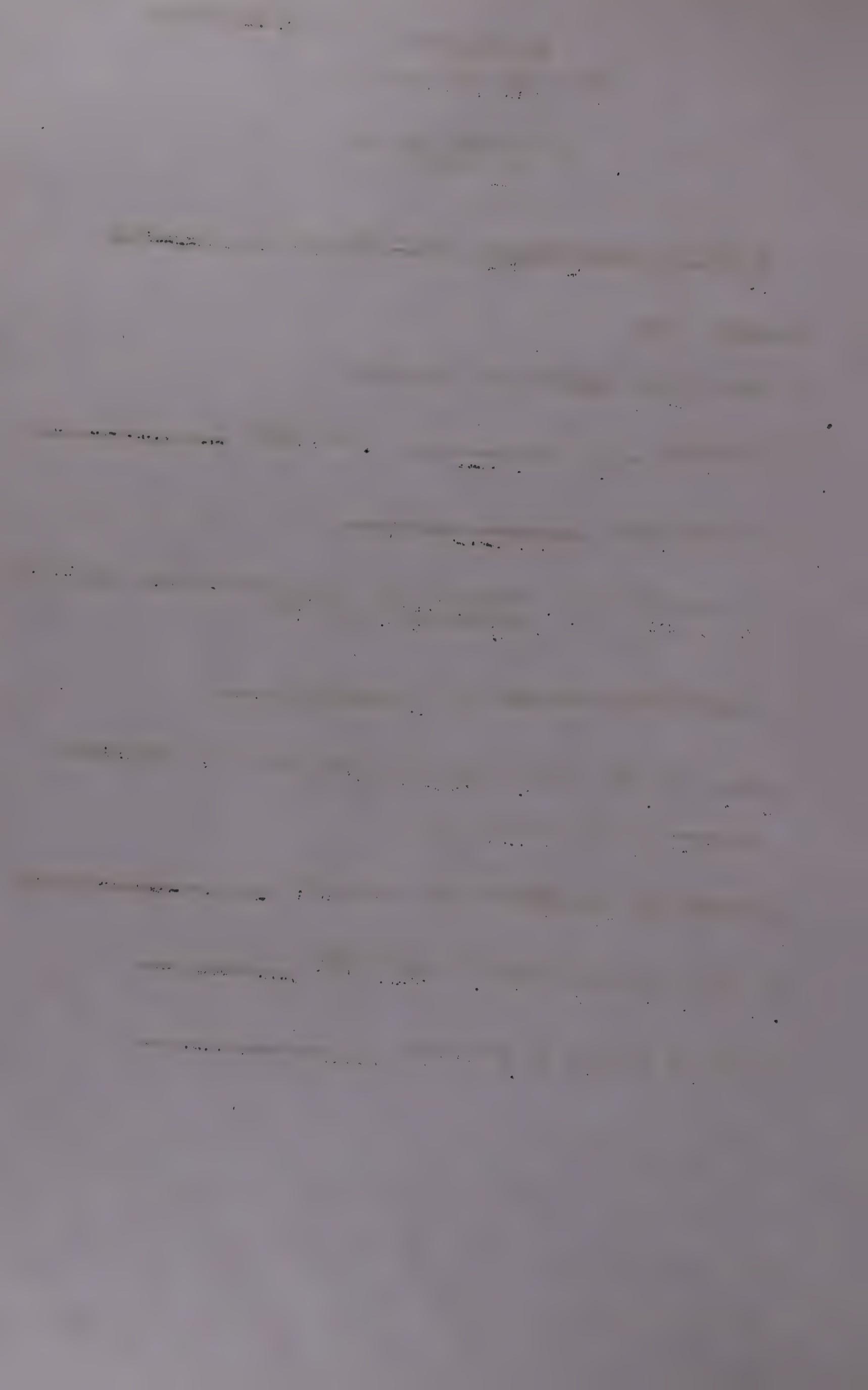
6. Respondent's designation: _____

7. What was the type of hospital when it was established?

8. Population coverage of the hospital: _____

9. No. of posts of doctor sanctioned: _____

10. No. of doctors in position: _____



PART - A

1. Are the patients accepting drugs given by your hospital?

Yes

No

If no, give reasons:

2. Do you prefer to use more of injections or oral preparations like tablets, capsules, etc.?

3. Do your patients prefer injections or oral preparations like tablets, capsules, etc.?

4. Are the drugs supplied by GMS sufficient?

Yes

No

5. Are the drugs supplied by DH & FWO sufficient?

Yes

No

6. Please give details of the following:

Year	Budget allotted	Value of drugs supplied by			Remarks
		GMS	DH&FWO	Total	
1984-85					
1985-86					
1986-87					

7. Who prepares the indent in your hospital?

8. On what basis is the indent prepared? _____

9. Do you prepare indents separately for GMS and DH & FWO?

Yes

No

NA

10. Which is the scheduled month for sending indent from your hospital?

a) GMS: _____

b) DH & FWO: _____

11. When did you send the indent for the year 1986-87?
Give the date and give reasons if it was late.
(Verify the date of indent)

a) GMS: _____

b) DH & FWO: _____

12. Which is the scheduled month of supply of drugs from GMS to your hospitals?

13. When were the drugs supplied by G.M.S. for the year 1986-87? If delayed, give reasons:

14. Which is the scheduled month of supply of drugs by the office of the DH & FWO?

15. When were the drugs supplied for the year 1986-87 by the Office of DH & FWO? If delayed, give reasons.

16. a) Please give details of drugs indented to GMS and supplied from GM& for the year 1986-87.

Items	Opening balance	Quantity indented	Quantity supplied

16. b) Please give details of drugs indented to DH & FWO and supplied from DH & FWO for the year 1986-87

Items	Opening balance	Quantity indented	Quantity supplied

17. Were you supplied with drugs nearing expiry date during 1986-87? If yes, give details of drugs and source of supply (GMS or DH & FWO office) and mention what action has been taken regarding that?

Drugs	Source supply	Date of expiry	Date of supply	Action taken

18. Has your hospital been supplied with some unindented drugs for the year 1986-87? If yes, give details.

19. Please give the details regarding out-patients for the year 1986-87.

No. of working days	No. of out-patients			Range of new out-patients in a day
	New	Old	Total	

20. Please give the details regarding in-patients for the year 1986-87.

Bed strength of the hospital	No. of in-patients treated	Total No. of days bed utilised

21. Please give an account of disease pattern among in-patients and out-patients for the year 1986-87 in your hospital.

Disease/Symptom	Number

22. Please give an account of drugs utilised for the year 1986-87.

Items	Opening balance supplied	Quantity used	Bal-ance	Remarks

23. a) Do you have stores in your hospital?

Yes

No

b) Who is incharge of the stores?

c) On what basis are the drugs distributed from stores to each doctor and mention the frequency of distribution (daywise, weekwise, etc.)

24. What is your opinion regarding the quality of drugs supplied by:

GMS: Very good Good Fair
Poor Very poor

DH & FWO: Very good Good Fair
Poor Very poor

25. a) Is there a refrigerator in your hospital?

Yes No

b) If yes, is it in working condition?

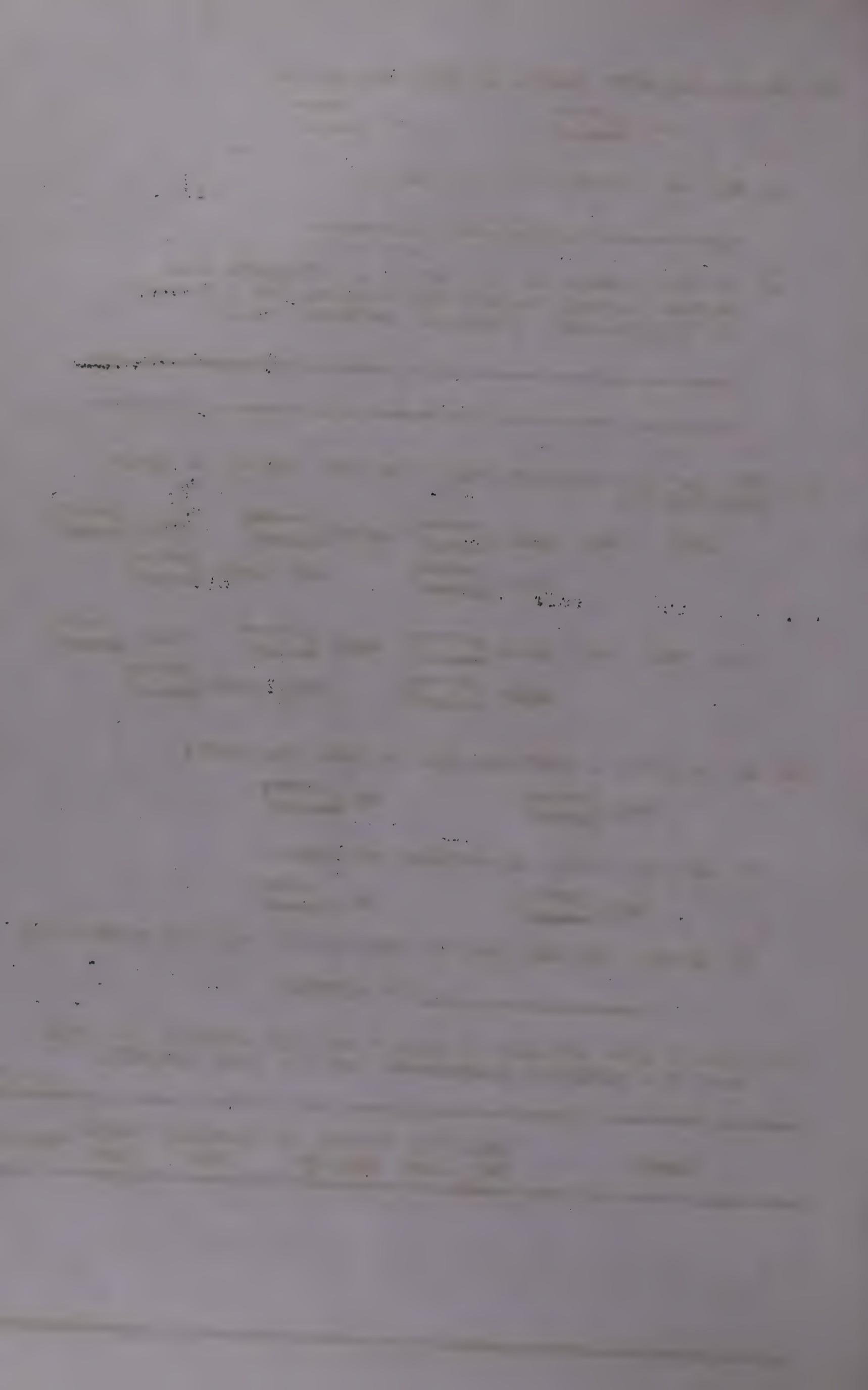
Yes No

c) If no, how long has it been not in working condition?

(in months)

26. Please give details of supply and utilisation of drugs used for national programmes for the year 1986-87.

Items	Quantity supplied	Source of supply	Quantity used	Bal- ance	Remarks
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27. Please give the availability of emergency drugs in your hospital.

Name of the drug	In stock	Out of stock (give exact date)	Reasons for non-availability

28. Do you know that Medical Officer can purchase drugs worth Rs. 250/- at a time and can be reimbursed? Have you utilised that facility? If yes, how many times did you utilise last year? If no, give reasons.

29. Do you regularly maintain drugs stock book?
(Please check whether it is updated)

30. Please give details

a) No. of Sub-Centres in the PHC _____

b) Did you receive the drugs for all the Sub-Centres under PHC for the year 1986-87?

Yes No

c) Did you supply the drugs for all the Sub-Centres?

Yes No

If no, give number: _____

31. What are your suggestions for improving the drugs position in hospitals?

PART B

1. Please give budget allotted for diet for the last three years:

Year	Budget allotted	Expenditure	Remarks
1984-85			
1985-86			
1986-87			

2. Do you think the annual budget for the diet is sufficient for the hospital? If no, what do you think is adequate budget per patient per day?

3. Please give details of schedule of diet supply to the patients in your hospital.

4. Do you have any problems regarding management of diet like availability of supplier or contractor or kitchen etc.? If so, give details.

5. Please give details of expenditure for the quarter January-March 1988.

Food item	Quantity purchased	Quantity utilised	Remarks

6. Please give details of quantity of diet fixed and supplied to different types of patients.

Type of patient	Item	Quantity Fixed	Quantity supplied	Re. mil.
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7. Do all the in-patients take the diet provided in the hospital? If no, what is the percentage of in-patients who do not take the hospital diet?

 8. What are your suggestions for improving the diet situation in hospitals?

